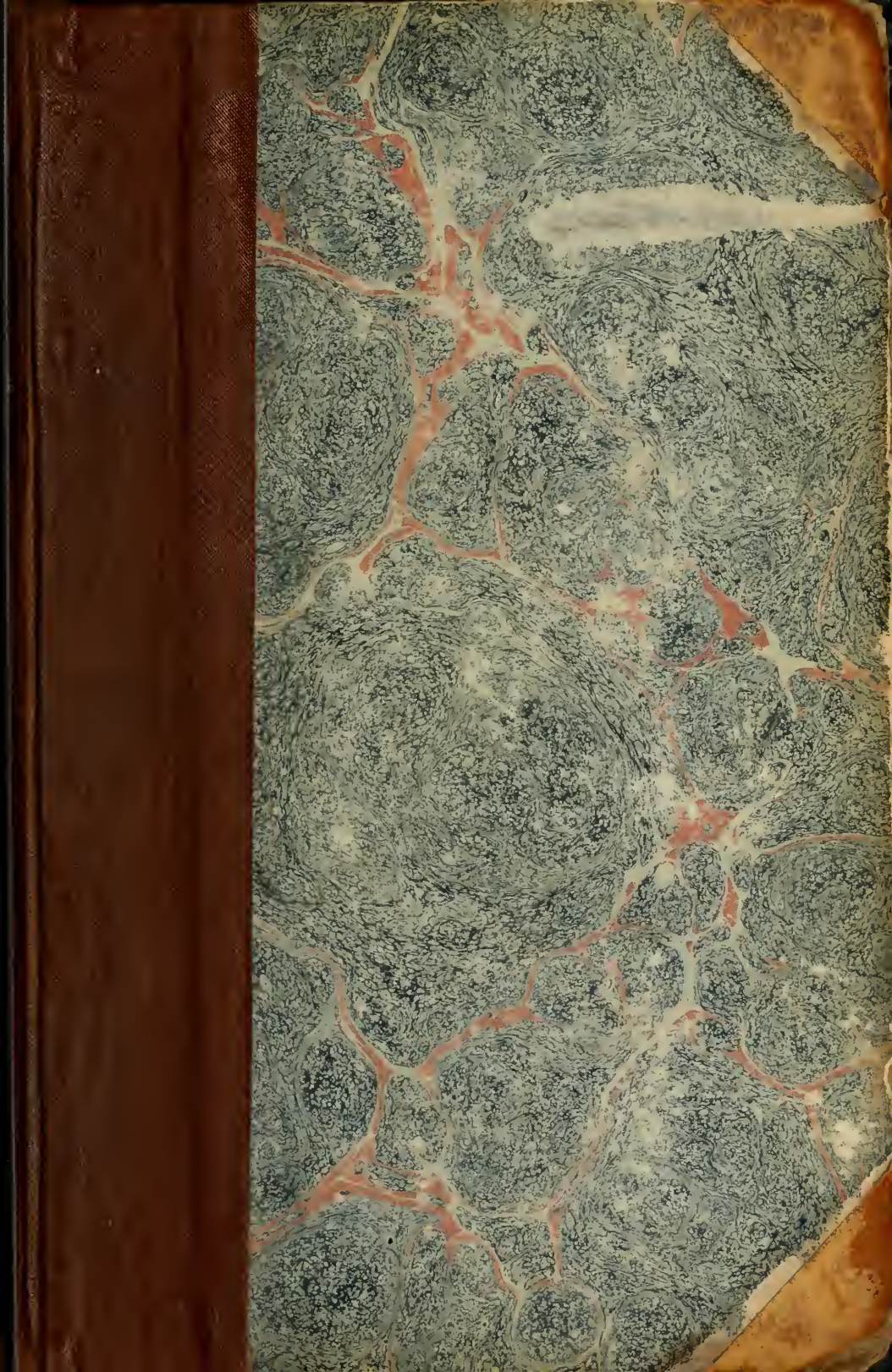


Digitized by the Internet Archive
in 2010 with funding from
University of Toronto

http://www.archive.org/details/medicochirurgica18roya

# MEDICO-CHIRURGICAL

# TRANSACTIONS,

PUBLISHED BY THE

## MEDICAL AND CHIRURGICAL SOCIETY

OF

## *LONDON.*

VOLUME THE EIGHTEENTH.

LONDON:

PRINTED FOR LONGMAN, REES, ORME, BROWN, GREEN, AND LONGMAN, PATERNOSTER ROW.

1833.

R
35
R67
v.13

# OFFICERS AND COUNCIL

OF THE

# MEDICAL AND CHIRURGICAL SOCIETY

OF

# LONDON,

ELECTED MARCH 1, 1833.

---

## PRESIDENT,

## JOHN ELLIOTSON, M.D. F.R.S.

| | |
|---|---|
| VICE-PRESIDENTS. | JAMES CLARK, M.D. F.R.S.<br>J. M. ARNOTT, Esq.<br>WILLIAM PROUT, M.D. F.R.S.<br>HENRY EARLE, F.R.S. |
| TREASURERS. | JOHN BOSTOCK, M.D. F.R.S.<br>EDWARD STANLEY, F.R.S. Esq. |
| SECRETARIES. | ROBERT LEE, M.D. F.R.S.<br>RICHARD PARTRIDGE, Esq. |
| LIBRARIANS. | JOHN BURNE, M.D.<br>WILLIAM COULSON, Esq. |
| OTHER MEMBERS OF THE COUNCIL. | SIR CHARLES BELL, F.R.S.<br>THOMAS BELL, Esq. F.R.S.<br>RICHARD BRIGHT, M.D. F.R.S.<br>JOHN CLENDINNING, M.D.<br>HENRY HOLLAND, M.D. F.R.S.<br>WM. LAWRENCE, Esq. F.R.S.<br>P. M. ROGET, M.D. F.R.S.<br>HENRY S. ROOTS, M.D.<br>JOHN F. SOUTH, Esq.<br>JOHN THOMSON, M.D. |

# MEMBERS

OF THE

# MEDICAL AND CHIRURGICAL SOCIETY

OF

# LONDON.

*September* 1833.

Walter Adam, M.D. *Physician to the Royal Public Dispensary, Edinburgh.*

Thomas Addison, M.D. *Assistant Physician to Guy's Hospital;* 24, *New Street, Spring Gardens.*

Joseph Ager, M.D. *Great Portland Street.*

James Ainge, Esq., *Fareham, Hants.*

George F. Albert, Esq.

James Alderson, M.D. *Physician to the Hull General Dispensary.*

Henry Alexander, Esq. *Surgeon and Oculist in Ordinary to the King and the Princesses, and Surgeon to the Royal Infirmary for Diseases of the Eye;* 6, *Cork Street, Bond Street.*

Matthew Allen, M.D. *Leopard's Lodge, Loughton, Essex.*

Alexander Anderson, Esq, 18, *Brompton Row.*

John Goldwyer Andrews, Esq. *Surgeon to the London Hospital;* 4, *St. Helen's Place.*

Thomas F. Andrews, M.D. *Norfolk, Virginia.*

William Ankers, Esq. *Knutsford, Cheshire.*

William Annandale, Esq. 3, *Great Queen Street, Westminster.*

Samuel Ashwell, Esq. *Lime Street Square.*

Professor Antommarchi, *Florence.*

William Withering Arnold, M.D. *Physician to the Infirmary and Lunatic Asylum at Leicester.*

Thomas Graham Arnold, M.D. *Stamford.*

James M. Arnott, Esq. VICE-PRESIDENT, *Surgeon Extraordinary to the Queen; Surgeon to the Middlesex Hospital; New Burlington Street.*

Neil Arnott, M.D. *Bedford Square.*

John Ashburner, M.D. M.R.I.A. *Physician Accoucheur to the Queen Charlotte's Lying-in Hospital, and Lecturer on Midwifery at St. Thomas's Hospital, Wimpole Street.*

Benjamin G. Babington, M.D. F.R.S. *Physician to the Deaf and Dumb Institution; Aldermanbury.*

John Badeley, M.D. *Chelmsford.*

John Carr Badeley, M.D. *Chelmsford.*

John H. Badley, Esq. *Dudley.*

William Baker, M.D. *Derby.*

Edward Barlow, M.D. *Physician to the United Hospital, and to the Bath Hospital; Bath.*

John Baron, M.D. *Physician to the Infirmary, Gloucester.*

James Bartlett, M.D. *Senior Physician to the Mary-le-bone Dispensary,* 10, *Bentinck Street.*

Sir Charles Bell, F.R.S. *Surgeon to the Middlesex Hospital; Professor of Anatomy to the Royal College of Surgeons; Lower Brook Street, Grosvenor Square.*

Joseph Bell, Esq. *Surgeon to the Royal Infirmary, Edinburgh.*

Thomas Bell, Esq. F.R.S. L.S. and G.S. *Lecturer on Diseases of the Teeth at Guy's Hospital;* 17, *New Broad Street.*

Titus Berry, Esq. *Surgeon to the Forces, and Surgeon to the Mary-le-bone Dispensary;* 32, *George Street, Hanover Square.*

Stephen Bertin, Esq. *Paris.*

Benjamin Bell, Esq. *Edinburgh.*

John Jeremiah Bigsby, M.D. *Newark, Nottinghamshire.*

Archibald Billing, M.D. *Physician to the London Hospital;* 10, *Bedford Place.*

William Birch, Esq. *Barton, Lichfield, Staffordshire.*

George Burrows, M.D. *Mortimer Street, Cavendish Square.*

Alfred Barker, M.D. 53, *Spring Gardens.*

George Birkbeck, M.D. 50, *Broad Street.*

Thomas Bishop, Esq.

Adam Black, M.D. 10, *Saint George's Place, Knightsbridge.*

Thomas Blair, M.D. *Brighton.*

Sir Gilbert Blane, Bart. M.D. F.R.S. *Physician to the King;* 8, *Sackville Street, Piccadilly.*

Thomas Blizard, Esq. F.R.S.

Henry C. Boisragon, M.D. *Cheltenham.*

Louis Henry Bojanus, M.D. *Wilna.*

G. Buckley Bolton, Esq. 3, *King Street, St. James's Square.*

Hugh Bone, M.D. *Physician to the Forces.*

John Booth, M.D. *Physician to the General Hospital at Birmingham.*

John Bostock, M.D. F.R.S. *Treasurer,* 22, *Upper Bedford Place, Russell Square.*

Robert Bree, M.D. F.R.S. *Park Square, Regent's Park.*

Gilbert Breschet, M.D. *Surgeon to the Hôtel Dieu, Paris.*

Richard Bright, M.D. F.R.S. *Physician to Guy's Hospital; Saville Row.*

Benjamin C. Brodie, Esq. F.R.S. *Serjeant-Surgeon to the King, and Surgeon to St. George's Hospital;* 14, *Saville Row.*

Benjamin Brooks, Esq. 37, *Bedford Street, Covent Garden.*

Ninian Bruce, Esq. M.D. *Surgeon to the Forces, and to the Royal Military College, Sandhurst.*

Samuel Barwick Bruce, Esq. *Surgeon to the Forces; Ripon, Yorkshire.*

M. Pierre Brulatour, *Surgeon to the Hospital, Bourdeaux.*

B. Bartlet Buchanan, M.D.

M. E. Bullin, Esq. 3, *Percy Street, Bedford Square.*

John Burne, M.D. LIBRARIAN, *Physician to the Public Dispensary,* 24, *Spring Gardens.*

Samuel Burrows, Esq.

Francis Burton, M.D. *Surgeon to the Twelfth Royal Lancers.*

John Butter, M.D. F.R.S. and F.L.S. *Physician to the Plymouth Eye Infirmary; Plymouth.*

William Campbell, M.D. *Physician to the New Town Dispensary, and Lecturer on Midwifery, Edinburgh.*

Harry Carter, M.D. *Physician to the Kent and Canterbury Hospital; Canterbury.*

William Colborne, Esq. *Chippenham, Wilts.*

Richard Cartwright, Esq. 34, *Bloomsbury Square.*

Samuel Cartwright, Esq. 32, *Burlington Street.*

Richard Chamberlaine, Esq. *Kingston, Jamaica.*

William Frederick Chambers, M.D. F.R.S. *Physician to St. George's Hospital, and Examining Physician to the Hon. East India Company;* 46, *Brook Street.*

James Copland, M.D. *Physician to the Royal Infirmary for Children, Waterloo Bridge Road, and Consulting Physician to Queen Charlotte's Lying-in-Hospital;* 1, *Bulstrode Street.*

John Cheyne, M.D. *Dublin.*

James Clark, M.D. F.R.S. Vice-President, *Physician to St. George's Infirmary;* 21, *George Street, Hanover Square.*

John Clendinning, M.D. 16, *Wimpole Street.*

Robert Cole, Esq. F.L.S. *Holybourne, Hampshire.*

Edward Coleman, Esq. *Veterinary Surgeon General; Veterinary College, St. Pancras.*

John Charles Collins, M.D. *Swansea.*

Henry Combe, Esq. 2, *Caroline Street, Bedford-Square.*

Sir Astley Paston Cooper, Bart. F.R.S. *Serjeant-Surgeon to the King, Consulting Surgeon to Guy's Hospital; Conduit Street.*

John Conolly, M.D. *Warwick.*

Samuel Cooper, Esq. Vice-President, *Professor of Surgery in the University of London; Surgeon to the Forces; to the King's Bench and Fleet Prisons; and to the Bloomsbury Dispensary;* 7, *Woburn Place, Russel Square.*

George Cooper, Esq. *Brentford.*

Benjamin Cooper, Esq. *Stamford.*

Thomas Copeland, Esq. 4, *Golden Square.*

William Cother, Esq. *Surgeon to the Infirmary, Gloucester.*

William Coulson, Esq. LIBRARIAN, *Surgeon to the General Dispensary, and Consulting Surgeon to the City Lying-in Hospital;* 34, *Charter House Square.*

J. C. Cox, Esq. *Surgeon to the Western Dispensary,* 38, *Montague Square.*

Stewart Crawford, M.D. *Bath.*

Sir Alexander Crichton, M.D. F.R.S. and F.L.S. *Physician in Ordinary to their Imperial Majesties the Emperor and Dowager Empress of all the Russias.*

John Cross, Esq. *Surgeon to the Norfolk and Norwich Hospital.*

Hinchman Crowfoot, Esq. *Beccles, Suffolk.*

William Cumin, M.D. *Professor of Botany at the Glasgow Institution, and Surgeon to the Royal Infirmary, at Glasgow.*

Christopher John Cusack, Esq.

Adolphe Dalmas, M.D. *Paris.*

George Darling, M.D. 6, *Russell Square.*

Francis Sacheverel Darwin, M.D. *Rowsley, near Wirksworth.*

Henry Davies, M.D. *Physician to the British Lying-in Hospital, Brownlow Street; Saville Row.*

David D. Davis, M.D. *Physician to the Duchess of Kent, and to the Maternity Charity, Obstetric Physician to the Northern Dispensary, Professor of Midwifery in the London University;* 4, *Fitzroy Street, Fitzroy Square.*

Thomas Davis, Esq. *Hampstead.*

Thomas Davis, Esq. 24, *George Street, Hanover Square.*

James Dawson, Esq. *Liverpool.*

Alexander Denmark, M.D. *Physician to the Fleet; Southampton.*

David James Hamilton Dickson, M.D. F.R.S. ED. and F.L.S. *Physician to the Fleet; Clifton.*

John Sommers Down, M.D. *Southampton.*

William Dunbar, M.D. *Stafford House, St. James's.*

William Dunn, Esq. 19, *Surrey Street, Strand.*

Henry Earle, Esq. F.R.S. *Surgeon Extraordinary to the King; Surgeon to St. Bartholomew's Hospital; and Professor of*

*Surgery and Anatomy to the Royal College of Surgeons; 28, George Street, Hanover Square.*

George Edwards, Esq.

C. C. Egerton, Esq. *India.*

Philip Elliot, M.D. *Bath.*

John Elliotson, M.D. F.R.S. PRESIDENT, *Physician to St. Thomas's Hospital; Professor of Medicine in the London University; Conduit Street, Hanover Square.*

Griffith Francis Dorset Evans, Esq. *Shrewsbury.*

John Richard Farre, M.D. *Physician to the London Ophthalmic Infirmary; Charter House Square.*

Robert Ferguson, M.D. *Professor of Midwifery in King's College, London; Queen Street, May Fair.*

William Fergusson, M.D. *Inspector of Hospitals; Windsor.*

James Forbes, M.D. *Deputy Inspector of Hospitals.*

Robert T. Forster, Esq. *Southwell, Nottinghamshire.*

Thomas Forster, M.D. *Hartfield Lodge, East Grinsted.*

Algernon Frampton, M.D. *Physician to the London Hospital; New Broad Street.*

John W. Francis, M.D. *Professor of Materia Medica in the University of New York.*

George Frederick Furnival, Esq. *Egham.*

William Gairdner, M.D. 12, *Bolton Street.*

John Samuel Gaskoin, Esq. 32, *Clarges Street.*

Henry Gaulter, Esq.

J. Gellatly, Esq. *London Road.*

Richard Francis George, Esq. *Surgeon to the Bath Hospital; Bath.*

Richard Gillies, M.D. *Bath.*

George Goldie, M.D. *York.*

William Goodlad, Esq. *Bury, Lancashire.*

Richard Goolden, Esq. F.L.S. *Maidenhead.*

Theodore Gordon, M.D. *Physician to the Forces; Duchess Street, Portland Place.*

James Alexander Gordon, M.D. *Physician to the London Hospital;* 2, *Finsbury Square.*

Robert Graham, M.D. F.R.S. ED. *Professor of Botany in the University of Edinburgh.*

Thomas Graham, Esq. *Turnham Green.*

R. D. Grainger, Esq. *Lecturer on Anatomy; Greenwich.*

Joseph Henry Green, Esq. F.R.S. *Surgeon to St. Thomas's Hospital, Professor of Surgery in King's College, London, and of Anatomy to the Royal Academy;* 46, *Lincoln's Inn Fields.*

John Grove, M.D. *Salisbury.*

John Gunning, Esq. *Inspector of Hospitals; Paris.*

Sir Henry Halford, Bart. M.D. F.R.S. and F.A.S. *President of the Royal College of Physicians, Physician in Ordinary to the King;* 16, *Curzon Street.*

Marshall Hall, M.D. F.R.S. *Manchester Square.*

Thomas Hammerton, Esq. 111, *Piccadilly.*

John Haviland, M.D. *Regius Professor of Physic in the University of Cambridge; Physician to Addenbrook's Hospital.*

Francis Bisset Hawkins, M.D. *Professor of Materia Medica in King's College, London;* 30, *Golden Square.*

Cæsar Hawkins, Esq. *Surgeon to St. George's Hospital, and Lecturer on Surgery;* 31, *Halfmoon Street.*

Thomas Emerson Headlam, M.D. *Newcastle-upon-Tyne.*

T. Heberden, M.B. 20, *Thavies Inn, Holborn.*

William Henry, M.D. F.R.S. *Manchester.*

Vincent Herberski, M.D. *Professor of Medicine in the University of Wilna.*

William Hill, Esq. *Wootton-under-Edge, Gloucestershire.*

H. B. C. Hillier, Esq. *Montague Place, Russell Square.*

Joseph Hodgson, Esq. F.R.S. *Surgeon to the General Hospital, and to the Eye Infirmary, Birmingham.*

Henry Holland, M.D. F.R.S. 25, *Lower Brook Street, Grosvenor Square.*

James Home, M.D. *Professor of the Practice of Physic in the University of Edinburgh.*

Thomas Charles Hope, M.D. F.R.S. *Professor of Chemistry in the University of Edinburgh.*

John Howell, M.D. F.R.S. Ed. *Clifton.*

Edward Howell, M.D. *Swansea.*

John Howship, Esq. *Surgeon to St. George's Infirmary;* 21, *Saville Street.*

Robert Hume, M.D. *Physician Extraordinary to the King, Inspector of Hospitals;* 9, *Curzon Street, May Fair.*

William Hunter, M.D. *Assistant Surgeon to the Coldstream Regiment of Guards.*

William Hutchinson, M.D.

John Hyslop, Esq. *Surgeon to the East India Company's Asiatic Seamen; Finsbury Square.*

Gustavus Irwin, M.D. *Surgeon-General and Inspector; Ordnance Medical Department, Woolwich.*

Henry Irwin, M.D. *Deputy Inspector of Hospitals; Sligo.*

John B. James, M.D.

Edward Johnson, M.D. *Weymouth.*

Edwin Godden Jones, M.D. *Southampton.*

G. Julius, Esq. *Richmond.*

George Hermann Kaufman, M.D. *Hanover.*

Robert Keate, Esq. *Surgeon in Ordinary to the King, and to their Royal Highnesses the Duchess of Gloucester, and Surgeon to St. George's Hospital;* 15, *Albemarle Street.*

Robert Masters Kerrison, M.D. 12, *New Burlington Street.*

Charles Aston Key, Esq. *Lecturer on Surgery, and Surgeon to Guy's Hospital;* 18, *St. Helen's Place.*

James Laird, M.D. *Consulting Physician to the Public Dispensary.*

William Lambe, M.D. *Physician to the General Dispensary;* 2, *King's Road, Bedford Row.*

Edmund Lambert, M.D. *Salisbury.*

George Langstaff, Esq. 2, *New Basinghall Street.*

William Lawrence, Esq. F.R.S. *Surgeon to St. Bartholomew's Hospital, and to Bridewell and Bethlem Hospitals; Lecturer on Surgery at St. Bartholomew's Hospital;* 18, *Whitehall Place.*

G. E. Lawrence, Esq.

William Elford Leach, M.D. F.R.S. and F.L.S.

John G. Leath, M.D.

John Joseph Ledsam, Esq. *Surgeon to the Birmingham Eye-Infirmary.*

Robert Lee, M.D. F.R.S. SECRETARY, *Physician to the British Lying-in Hospital, and St. Mary-le-bone Infirmary, Lecturer on Midwifery;* 14, *Golden Square.*

Henry Lee, M.D. *Charlotte Street, Bloomsbury.*

John Lind, M.D.

Robert Lloyd, M.D.

Eusebius Arthur Lloyd, Esq. *Assistant Surgeon to St. Bartholomew's Hospital, and Surgeon to Christ's Hospital;* 14, *Bedford Row.*

J. G. Locher, M.C.D. *Town Physician of Zurich.*

Charles Locock, M.D. *Physician to the Queen, and to the Westminster Lying-in Hospital; Hanover Square.*

Peter Luard, M.D. *Warwick.*

James Macartney, M.D. F.R.S. M.R.I.A. *Professor of Anatomy in Trinity College, Dublin.*

Sir James Macgrigor, M.D. F.R.S. L. and ED. *Physician Extraordinary to the King, and Director General of the Medical Department of the Army; Camden Hill, Kensington.*

George Macilwain, Esq. *Surgeon to the Finsbury Dispensary;* 9, *Argyle Place, Regent Street.*

William Mackenzie, Esq. *Surgeon to the Eye-Infirmary, Glasgow.*

Richard Mackintosh, M.D.

Thomas Mac Whirter, M.D. *Newcastle-upon-Tyne.*

Henry Marsh, M.D. *Dublin.*

John Massen, Esq. *Stafford.*

Charles Maul, Esq. *Southampton.*

J. P. Maunoir, *Professor of Surgery at Geneva.*

Herbert Mayo, Esq. F.R.S. *Professor of Anatomy in King's College, London, and Surgeon to the Middlesex Hospital;* 19, *George Street, Hanover Square.*

John Medhurst, Esq. *Hurstbourne, Tarrant.*

Samuel Merriman, M.D. F.L.S. *Physician-Accoucheur to the Middlesex Hospital, and Consulting Physician-Accoucheur to the Westminster General Dispensary;* 34, *Lower Brook Street, Grosvenor Square.*

Augustus Meyer, M.D. *St. Petersburgh.*

Edward Middleton, M.D. *Southampton.*

Charles Millard, Esq. *Demonstrator of Anatomy in the School of Webb Street; 28, Dean Street, Southwark.*

Patrick Miller, M.D. F.R.S. Ed. *Physician to the Devon and Exeter Hospitals, and to the Lunatic Asylum, Exeter.*

William Money, Esq. 3, *Hanover Street.*

Joseph Moore, M.D. *Lincoln's Inn Fields.*

Michael Morrah, Esq. *Worthing.*

George Frederick Mühry, M.D. *Physician to his Majesty; Hanover.*

John Murray, Esq. *Surgeon to the Forces; Cape of Good Hope.*

James Muttleberry, M.D. F.R.S. Ed. *Inspector of Hospitals; Bath.*

Alexander Nasmyth, Esq. 13, *Great George Street, Hanover Square.*

Thomas Nelson, M.D. 33, *Wimpole Street.*

H. Nias, Esq. *Upper Edmonton.*

Thomas Nixon, Esq. *Surgeon-Major to the First Regiment of Foot Guards.*

George Norman, Esq. *Surgeon to the United Hospital and Puerperal Charity; Bath.*

John North, Esq. *Upper Berkeley Street.*

James Adey Ogle, M.D. *Aldrichian Professor of Medicine; Oxford.*

Benjamin Fonseca Outram, M.D. 1, *Hanover Square.*

Robert Paley, M.D. *Halifax.*

J. F. Palmer, Esq. *Surgeon to the St. Georges's and St. James's Dispensary,* 38, *Golden Square.*

John Ranicar Park, M.D.

Richard Partridge, Esq. Secretary, *Demonstrator of Anatomy in King's College, London; 8, Lancaster Place.*

Granville Sharp Pattison, *America.*

William Pearson, Esq. F.R.S. *Clapham.*

Charles P. Pelechin, M.D. *St. Petersburgh.*

William Pennington, Esq. 17, *Conduit Street, Hanover Square.*

John Pryor Peregrine, Esq. 3, *Halfmoon Street, May Fair.*

Jonathan Pereira, Esq. *Aldersgate Street.*

Edward Phillips, M.D. *Physician to the County Hospital; Winchester.*

Richard Pinckard, M.D. 18, *Bloomsbury Square.*

William Pittman, Esq. *Andover.*

James Powell, Esq. 16, *Great Coram Street.*

William Prout, M.D. F.R.S. 40, *Sackville Street.*

William Pym, M.D. *Deputy-Inspector of Hospitals.*

Jones Quain, M.D. *Professor of Anatomy in the London University; Compton Street, Regent Square.*

Daniel Quarrier, M.D. *Surgeon to the Marine Artillery, Chatham.*

John Ramsey, M.D. *Physician to the Infirmary at Newcastle.*

John Atkinson Ransome, Esq. *Surgeon to the Infirmary, Dispensary, Lunatic Asylum, and House of Recovery, Manchester.*

Henry Reeder, M.D. *Ridge House, Chipping Sodbury, Gloucestershire.*

John Richardson, M.D. F.R.S. *Surgeon to the Naval Hospital, Chatham, and late Surgeon and Naturalist to the Second Land Expedition to the Arctic Region.*

John Robb, M.D. *Deputy-Inspector of Hospitals.*

Charles Julius Roberts, M.D. *Physician to the General Dispensary, Aldersgate Street, and to the South London Dispensary;* 30, *New Bridge Street.*

Archibald Robertson, M.D. *Physician to the General Infirmary, Northampton.*

Peter M. Roget, M.D. Sec. R.S. *Consulting Physician to the Queen Charlotte's Lying-in Hospital;* 39, *Bernard Street, Russell Square.*

Henry S. Roots, M.D. *Physician to St. Thomas's Hospital;* 84, *Guildford Street.*

Sudlow Roots, Esq. *Kingston-on-Thames.*

Thomas Salter, Esq. F.L.S. *Poole, Dorsetshire.*

Page Nicol Scott, Esq. *Norwich.*

Edward J. Seymour, M.D. *Physician to H. R. H. the Duke of Sussex; Physician to St. George's Hospital, Charles Street, Berkeley Square.*

Thomas Short, M.D. *Physician to the Forces; Edinburgh.*

John Sims, M.D. *Physician to the St. Mary-le-Bone Infirmary;* 37, *Cavendish Square.*

Charles Skene, M.D. *Professor of Anatomy and Surgery, Marischall College, Aberdeen.*

George Skene, Esq. *Addersey Lodge, near Newport Pagnel.*

Joseph Skey, M.D. *Physician to the Forces; Chatham.*

Frederick C. Skey, Esq. *Assistant Surgeon and Demonstrator of Anatomy at St. Bartholomew's Hospital, and Surgeon to the Northern Dispensary;* 33, *Southampton Row, Russell Square.*

Noel Thomas Smith, M.D. *Newcastle.*

Robert Smith, M.D. *Maidstone.*

Southwood Smith, M.D. *Physician to the Fever Hospital and to the Eastern Dispensary; Broad Street.*

George Snowden, Esq. *Ramsgate.*

John Smith Soden, Esq. *Surgeon to the United Hospital, to the Eye Infirmary, and to the Penitentiary and Lock Hospital; Bath.*

S. Solly, Esq. *Demonstrator of Anatomy, St. Thomas's Hospital;* 15, *Saint Mary Axe.*

James C. Somerville, M.D. *Inspector of Anatomy for London; Saville Row.*

John Flint South, Esq. *Lecturer on Anatomy at St. Thomas's Hospital;* 7, *Upper Stamford Street, Blackfriars.*

Edward Stanley, Esq. F.R.S. TREASURER: *Assistant-Surgeon and Lecturer on Anatomy at St. Bartholomew's Hospital; Lincoln's Inn Fields.*

Thomas A. Stone, Esq. 7, *Clifford Street.*

William Stroud, M.D. *Physician to the Northern Dispensary;* 20, *Great Coram Street.*

Alexander Robert Sutherland, M.D. *Physician to St. Luke's Hospital;* 1, *Parliament Street.*

John Sweatman, Esq. *Surgeon Accoucheur to the Queen Charlotte's Lying-in Hospital;* 68, *Berner's Street.*

Frederick Thackeray, M.D. *Physician to Aldenbrook's Hospital, Cambridge.*

Honoratus Leigh Thomas, Esq. F.R.S. 12, *Leicester Place.*

Charles Thomas, M.D. *Devonport.*

John Thomson, M.D. F.R.S. Ed. *Surgeon to the Forces; Edinburgh.*

John Thomson, M.D. F.L.S. *Physician to the Finsbury Dispensary;* 58, *Hermitage Place, St. John's Street Road.*

Tindall Thornton, M.D. *India.*

Sir Matthew John Tierney, Bart. *Physician to the King;* 46, *Dover Street.*

James Torrie, M.D. *Aberdeen.*

Benjamin Travers, Esq. F.R.S. *Surgeon to St. Thomas's Hospital;* 12, *Bruton Street.*

William Travis, M.D. *Scarborough.*

William Tudor, Esq. *Bath.*

Martin Tupper, Esq. 5, *New Burlington Street.*

Alexander Tweedie, M.D. *Physician to the London Fever Hospital, and to the Northern Dispensary;* 30, *Montague Place, Russell Square.*

Frederick Tyrrell, Esq. *Surgeon to St. Thomas's Hospital, and to the London Infirmary for Diseases of the Eye, and Lecturer on Anatomy and Surgery at St. Thomas's Hospital;* 17, *New Bridge Street.*

Barnard Van Oven, Esq. *Consulting Surgeon to the Charity for Delivering Jewish Lying-in Women; Broad Street Buildings.*

Bowyer Vaux, Esq. *Surgeon to the General Hospital at Birmingham.*

John P. Vincent, Esq. *Surgeon to St. Bartholomew's Hospital;* 16, *Lincoln's Inn Fields.*

James Vose, M.D.

Benedetto Vulpes, M.D. *Physician to the Hospital of Aversa, and to the Hospital of Incurables, Naples.*

Nathaniel Vye, Esq. *Ilfracombe.*

William Wagner, M.D. *Berlin.*

Thomas Walker, M.D. *Physician to the Forces, and to the Embassy at St. Petersburgh.*

John Warburton, M.D. *Physician to St. Luke's Hospital;* 5, *Clifford Street.*

Tilleard Ward, Esq. 48, *Berner's Street.*
Martin Ware, Esq. 22, *Bloomsbury Square.*
John Ware, Esq.
Charles Bruce Warner, Esq. *Cirencester.*
E. T. Warry, Esq. *Lyndhurst, Hants.*
R. Watts, M.D. *Cranbrook.*
George Hume Weatherhead, M.D. *Norwood.*
Charles Webb, Esq. *Oxford.*
Richard Welbank, Esq. 102, *Chancery Lane.*
Sir Augustus West, *Deputy Inspector of Hospitals to the Portuguese Forces; Lisbon.*
John Whatley, M.D.
Thomas Wormald, Esq. *Demonstrator of Anatomy, St. Bartholemew's Hospital; Bedford Row.*
William Wickam, Esq. *Surgeon to the Winchester Hospital.*
Arthur Ladbroke Wigan, Esq. *Brighton.*
Robert Williams, M.D. *Physician to St. Thomas's Hospital;* 39, *Bedford Place.*
Robert Willis, M.D. *College of Surgeons.*
Isaac Wilson, M.D. *Domestic Physician to the Duchess of Kent; Haslar Hospital, Gosport.*
Charles Wingfield, Esq. *Oxford.*
John Winter, Esq. *Alresford, Hants.*
Thomas A. Wise, Esq. *India.*
John Yelloly, M.D. F.R.S. *Physician to the Duke of Gloucester; Woodton Hall, Norfolk.*
George William Young, Esq.
Samuel Young, Esq.

OMITTED, UNDER LETTER P.

John Prout, Esq., *Odessa.*

---

## HONORARY MEMBER.

Charles Hatchett, Esq. F.R.S. *Hammersmith.*

## FOREIGN HONORARY MEMBERS.

Paolo Assalini, M.D. *Professor of Surgery, and Chief Surgeon to the Military Hospital at Milan, &c.*

Jacob Berzelius, M.D. F.R.S. *Professor of Chemistry in the University of Stockholm.*

John Frederick Blumenbach, M.D. F.R.S. *Professor of Medicine in the University of Gottingen.*

David Hosack, M.D. F.L.S. *Professor of Physic in the University of New York.*

Frederick Louis Kreysig, M.D. *Physician to the King of Saxony, and Professor of Medicine at Dresden.*

John Frederick Meckel, M.D. *Professor of Anatomy, Physiology, Zoology, and Surgery, and Dean of the Medical Faculty at the University of Halle.*

S. Th. Soemmerring, M.D. *Professor of Anatomy at Munich.*

# CONTENTS

OF

# *VOL. XVIII.—PART I.*

---


Page

I. Cases and Observations connected with Disease of the Pancreas and Duodenum. By Richard Bright, M.D. F.R.S. Fellow of the Royal College of Physicians, Lecturer on the Practice of Medicine, and one of the Physicians to Guy's Hospital..... 1

II. Case of Jaundice with discharge of Fatty Matter from the Bowels, and a contracted State of the Duodenum. By E. A. Lloyd, Esq., Assistant Surgeon to St. Bartholomew's Hospital, &c..... 57

III. On the Discharge of Fatty Matters from the Alimentary Canal and Urinary Passages. By John Elliotson, M.D., Cantab., F.R.S. Professor of the Principles and Practice of Medicine in the University of London, President of the Phrenological Society, and Physician to St. Thomas's Hospital: Fellow of the Royal College of Physicians, &c. &c. ..... 67

IV. Case of Œsophagotomy, with Remarks, By James M. Arnott, Surgeon to the Middlesex Hospital..... 86

Page

V. Cases of Sloughing Abscess connected with the Liver, with some Remarks on Encysted Tumours of that Organ. By Cæsar Hawkins, Esq. Surgeon to St. George's Hospital, and Lecturer on Surgery..... 98

VI. Case of Aqueous Encysted Tumour of the Kidney, with a Supernumerary Gland attached to it. By Cæsar Hawkins, Esq., Surgeon to St. George's Hospital, and Lecturer on Surgery..... 175

VII. An Account of Two Cases of Deep Seated Nævus, or Vascular Tumour of Large Size, treated by the Introduction of Setons. By George Macilwain, Surgeon to the Finsbury Dispensary, to the St. Ann's Society, &c..... 189

VIII. Additional Facts respecting Glanders in the Human Subject. By John Elliotson, M.D. F.R.S., President of the Society..... 201

IX. On the Ulcerative Process in Joints. By C. Aston Key, Surgeon to Guy's Hospital, &c..... 208

X. History of a Case of Medullary Sarcoma, which affected several important Viscera, with a Description of the Morbid Appearances which were observed on Dissection. By George Langstaff, Esq. ..... 250

XI. Case of Bony Union of a Fracture of the Neck of the Femur within the Capsule, occurring in a Young Subject. By Edward Stanley, F.R.S., Lecturer on Anatomy and Physiology, and Assistant Surgeon to St. Bartholomew's Hospital..... 256

XII. On Irritation of the Spinal Cord and its Nerves, in connection with Disease in the Kidneys. By Edward Stanley, F.R.S., Lecturer on Anatomy, &c., &c..... 260

XIII. On Malignant Tumours connected with the Heart and Lungs. By John Sims, M.D., Physician to the Saint Mary-le-bone Infirmary..... 281

# CASES AND OBSERVATIONS

CONNECTED WITH

# DISEASE

OF THE

# PANCREAS AND DUODENUM,

BY RICHARD BRIGHT, M.D. F.R.S.

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, LECTURER ON THE PRACTICE OF MEDICINE, AND ONE OF THE PHYSICIANS TO GUY'S HOSPITAL.

READ NOVEMBER 13TH, 1832.

Although the cases and observations which I am about to lay before the Society, are stated to be connected with derangement of the pancreas and duodenum; yet they are chiefly intended to call the attention of the Members to a particular symptom in disease, which I believe to have been but little noticed. In this I may be mistaken, but at all events it is not a frequent symptom, and the present paper will serve as an additional record of its existence, even though I should fail, as I fear I shall, to bring forward any thing conclusive in elucidation of the morbid state, or even demonstrative of the organ, on which it depends, and I am the less scrupulous in submitting these cases to the Society because they are not without interest, independently of the direct

reference to the subject for which they are introduced.

The symptom to which I refer is a peculiar condition of the *alvine evacuation*, a portion more or less considerable assuming the character of an *oily* substance resembling fat, which either passes separately from the bowels, or soon divides itself from the general mass, and lies upon the surface, sometimes forming a thick crust, particularly about the edges of the vessel, if the fæces are of a semi-fluid consistence, sometimes floating like globules of tallow which have been melted and become cold, and sometimes assuming the form of a thin fatty pellicle over the whole, or over the fluid parts, in which the more solid figured fæces are deposited.

This oily matter has generally a slight yellow tinge, and a most disgustingly fetid odour. I submitted a portion of it to Dr. Bostock for examination, so long ago as the year 1828; and he declared it to be adipocire. I shall, however, in the observations I make, refer less to the chemical properties of the substance than to the obvious symptom,—the existence of the separated matter resembling fat, which is still no less a marked symptom whether it be found to be a new secretion; or only a modification of that fatty matter of which Berzelius has spoken as being one of the component parts of fæces, and is in the natural and healthy state completely mingled with

them; or whether it be some new compound produced from the alimentary matter.

The first case which I bring forward because the first in which I had an opportunity of following out this peculiar symptom by an examination after death, I shall relate in the words of my friend Dr. Benjamin Babington, with whom I saw the patient several times during life, and assisted at the post mortem examination.

### *CASE I.*

*Diabetes,—with supervening icterus from obliteration of the common bile duct, caused by disease of the pancreas,—malignant ulceration of the duodenum,—copious discharge of fatty matter with the dejections.*

James Barnes, aged 49, clerk in a waggon office, a man of sober and regular habits, began to complain, in March 1827, of immoderate thirst and appetite, with a constant pain in his loins. He made water very frequently, and his urine was of a pale colour. These symptoms accompanied by emaciation increasing upon him, he applied for advice successively to several medical men. It was not, however, until the middle of August following, that his disorder was pronounced to be diabetes mellitus. In the beginning of September he first became affected with jaundice, but his change of colour was not pre-

ceded by any painful sensations. Under different Dispensaries and practitioners, he was subjected to various medical treatment, until the 4th of December, the period at which I first saw him. He was then reduced to a state of great debility, although still by no means a thin man. His thirst and appetite were constant, his pulse was 80 and soft, his skin deeply tinged with bile. His urine, of which he made about nine pints in 24 hours, was deep coloured, and left a yellow stain on linen. It was very sweet, and had a specific gravity of 1039. His evacuations by the bowels were copious and light coloured. The liver was at this time but obscurely felt through the integuments, as these were still filled out with adipose matter. My directions were that the patient should live upon animal food with a moderate portion of greens or lettuces, and that he should eat as little bread as possible, and avoid all kinds of roots, fruits, and such articles of diet as contain sugar or meal; that he should drink tea without sugar, and at his dinner stale porter or port wine and water. With his diet thus regulated, a bitter aromatic mixture with subcarbonate of soda was prescribed.

On the 18th of December he began to keep an account of the quantity of liquid drunk and of urine made in the 24 hours, prefacing it with a detail of the nourishment taken on that day, and this he continued, with the exception of one week, until he grew too much debilitated to write.

Between the 5th and the 18th of December, the urine gradually diminished in quantity and specific gravity, and on the latter date the diabetic character of the complaint was so far subdued, that attention was now more particularly directed to the obstruction of the bile. With this view, the following pill was directed, as an addition to the mixture already prescribed.—

℞ Pilul. Hydrag. ℈i.
Extr. Taraxaci ℈ij.

Contunde et divide in Pilulas duodecim quarum sumat unam ter quotidie.

From this period I saw Mr. Barnes at intervals, and made the following remarks on these occasions. On the 24th of December the skin continued tinged of a bright yellow colour, the bowels were regular. The urine was somewhat less highly coloured than on the preceding week. It had entirely lost its sweet taste and its specific gravity was only 1015, or rather under than beyond the healthy standard. The quantity of liquid taken on this day was six pints, and the quantity of urine made amounted to only four. From this time forth the patient might be said to have lost altogether the diabetic disorder, or, at least that sign of it which consists in the formation of sugar in the urine. On a more minute examination of the liver than I had before made, it was very distinctly felt, hard and solid, projecting three or four inches beneath the ribs. The edge could be made out

to be rounded, the notch was perceptible to the touch, and though the parietes were not at this time very thin, the gall-bladder, enormously distended, could very plainly be felt through them. The mouth had been very sensibly affected by the mercurial for several days past. It was now therefore discontinued and the taraxacum alone employed with the alkaline tonic mixture.

On Friday the 28th, without any notable change of symptoms, the patient began to pass a quantity of *yellowish fatty matter much resembling butter that had been melted and had become again solid.* This matter followed the fæces, and as it was evacuated in a melting state it was perceived on the surface of the dejection. We could not trace the origin of this change to any thing that had been eaten, for he had been upon a rigid system of diet from the time that he had been under my care, and had taken nothing of a fatty nature since that period. Meat, indeed, he had used in abundance, but his wife had constantly and carefully removed the fatty parts. For the subcarbonate of soda in the tonic mixture, liquor potassæ, in the proportion of 15 minims to the dose, was substituted to meet more effectually this symptom.

On December the 31st, I found that this alteration in the mixture had done away entirely the oily character of the motions, three of which, copious in quantity, were then passed in the 24 hours. The specific gravity of the urine was still 1015, but notwithstanding this amelioration in one part of his complaint, the

patient was evidently growing weaker and more emaciated from the obstinate obstruction of the gall bladder, and the consequently defective assimilation of the nourishment. The taraxacum seemed, indeed, to supply the place of bile, so far as its merely stimulating effects and the consequent action of the bowels were concerned; but the evacuations which passed were of an unhealthy character, made up of half digested food, pasty, deficient in colour, and feculent odour, and more copious than they would have been, had the usual proportion of nutritive parts been abstracted. The effect of the mercury had nearly subsided, but pain being now felt in the hepatic region, a large blister was applied over that part, and the same medicine was continued.

On the 8th of January 1828, when I next saw my patient, he was somewhat more debilitated than on the preceding week, and still remained thoroughly jaundiced. He passed four or five stools in the 24 hours, somewhat relaxed, *and now again containing some of the fatty matter* already described, as well as portions of undigested meat. The appetite was good but not voracious. Sleep disturbed, seldom lasting more than an hour and a half at a time. Tongue somewhat brownish in the centre but moist, and, excepting this slight alteration in colour, not much deviating from the healthy state. Pulse 84, soft. Urine high coloured, specific gravity 1020. More bread had within the last day or two been added to the diet, which otherwise remained the

same. With reference to the relaxed state of bowels and frequent motions, a chalk mixture with aromatic confection and tincture of opium was directed.

At the same time, in order that the liver might not be neglected, however hopeless the attempt to relieve its gorged state, a mercurial plaister was applied over the part, the painful sensations in which had been somewhat relieved by the blister.

On the 13th, I found that the number of dejections had been reduced to three in the 24 hours. Only two copious evacuations had been past on the preceding day, which continued of a pasty, stringy consistence, but were not of a very light colour. The patient was evidently more emaciated and duller than he had yet appeared, and the colour of his skin had not improved. The edge of the liver and large rounded extremity of the gall bladder were still plainly felt. The rest of the abdomen was flaccid. Severe pain was felt on the right passing through to the left side, which almost wholly prevented sleep. The tongue was clean and of a healthy colour, pulse 87, weak. Ordered to be cupped on the right side to eight ounces and to take four grains of blue pill with two grains of extract of poppies every night. On the following day the pain in the side was relieved. The quantity of urine made had been four pints in the 24 hours, while $5\frac{1}{2}$ pints had been drunk, the specific gravity was 1020, that of the bloody serum collected from the cupping 1030. On the 16th the bowels

became again very much relaxed, five evacuations having been passed during the preceding night. The motions were of a dark colour and still *contained a little oily matter*, though less than had been observed the preceding fortnight. The appetite was still moderate and even precarious, the sleep much disturbed. The pills were directed to be discontinued, and a powerful astringent mixture, containing hæmatoxylum, catechu and opium, was ordered.

21st. Much weaker, yet still able to move slowly about the house. The bowels continued relaxed to the extent of six motions a day, and what passed was dark and undigested. The feet were now, for the first time, observed to be somewhat œdematous, and the skin remained of a deep yellow hue. The emaciation was progressive, the rest continued much disturbed. There was now no complaint of thirst, nor indeed had this been the case since the change in the specific gravity and quantity of the urine; but the appetite was again increased.

From the beginning of February Mr. Barnes was evidently a dying man. On the 10th of that month he began to labour under symptoms of pleuritis in the left side. On the 26th, the quantity of urine made amounted to only $2\frac{1}{2}$ pints. The appetite had now failed. The bowels, which had been hitherto relaxed, were confined, so that no motion had been obtained from the Sunday to the Tuesday, the specific gravity of the urine was only 1006, and, though what food was taken consisted

entirely of farinaceous articles, it was not increased either in specific gravity or in quantity from this circumstance. He died without pain or struggle, sitting up in his bed, on the 1st of March, worn out with emaciation, debility, and want of rest, but retaining his senses, and a perfectly collected state of mind till the last moment of his life.

*Sectio Cadaveris.*—The limbs were remarkably flaccid, the whole skin was of a dark yellow colour; there was great general emaciation, and the legs were slightly œdematous.

Both the pleura costalis and pulmonalis were tinged with bile. The lungs were healthy in structure throughout, except the lower lobe on the left side, where very acute pleuritis had recently occurred, throwing out a thick coating of gelatinous fibrin, which broke down readily when the lungs were drawn forwards. This was partly deposited on the lower surface against the diaphragm, and partly on the posterior part of the ribs near their angle, and it was highly tinged with bile. The lung itself was implicated, and a small abscess of the size of an olive was formed near the edge, where it rests upon the diaphragm. The pericardium was deeply stained with bile, and the large vessels near the heart were quite yellow, this colour pervading their whole thickness. The heart was rather small and contracted, but retained its natural proportions, and the valves were healthy. The abdomen contained rather more

than a gallon of dark olive coloured fluid. The gall bladder distended with very dark bile, was seen with its fundus projecting when the parietes were first removed. The liver was of a dark olive colour from the bile with which it was pervaded. The ducts were greatly enlarged. The common duct was large enough to admit the little finger freely when passed from above downwards, and its internal surface presented a honey-comb or reticulated appearance, and terminated by a cul de sac in the diseased substance of the pancreas, and at its shut end, a rough white deposit had taken place probably either of fibrin or cholesterine.

*The head of the pancreas* formed with some of the surrounding glands, a hard globular mass, round which the duodenum turned, and to which both it and the pylorus were firmly joined, and in two parts, where the pancreas and duodenum were welded together by the disease, ulcers of a hard and scirrhous character had taken place, penetrating the whole thickness of the intestine ; one of them of the size of a shilling, and the other not larger than a silver penny piece. The pancreas was hard and cartilaginous to the touch, and of a bright yellow colour.

A section of the liver looked like a fine grained dark greenstone porphyry, or very dark Aberdeen granite ; the ducts, which were throughout enlarged, being completely filled with bile which flowed from the incision. In different parts of the liver a few irre-

gular masses occurred of a firm hard consistence, but shaded off into the substance of the liver, and not bearing the appearance of circumscribed tubera. The stomach was slightly vascular. The spleen natural in structure, but its external surface mottled, with cartilaginous deposit. The intestines were tolerably natural, but somewhat opake, and the internal lining rather pale. The kidneys were to external appearance perfectly healthy; but the tubular parts shewed themselves more plainly than usual, when the kidney was torn open, and in some of the tubes were white specks from a deposit either of fibrin or of calculous matter. The pelvis of the kidney was not vascular, but was tinged with bile. The lining membrane of the bladder was remarkably healthy and free from all vascularity; but its net-like appearance bespoke more than usual action in the muscular coat. The aorta and common iliacs were in many patches diseased with bony deposits surrounded by dark spots, where the internal surface had been destroyed by ulceration or absorption.

### *CASE II.*

*Icterus from obliteration of the common bile duct, caused by disease of the pancreas, malignant ulceration of the duodenum. Fatty matter in the dejections.*

Elizabeth Tubbs, aged 50, living at Gravesend, was admitted into Guy's hospital under my care, November 19th, 1828. She had been for some time

under the treatment of Mr. Beaumont, but her husband becoming anxious, determined to bring her to the hospital. She was at that time intensely yellow with jaundice, but the colour was rather of a dingy than of a brilliant hue. She was greatly emaciated, the skin of the face appearing to be drawn tight, and the cheeks sunk. She stated that about 17 years before, she was supposed to have had a severe inflammation of the liver, since which she had enjoyed good health; but had been subject to occasional retching and vomiting, even in her best health, and this had been more frequent and severe of late, often occurring half an hour after taking food, and sometimes when she stooped, as to tie her shoe. For the last four months her stools had been occasionally of a clay colour. Her skin had from time to time become yellow. Three months ago she was attacked with most violent pain in the lower part of her abdomen, attended with diarrhœa; her food passing in an undigested state. The severe pains still continued, at the time of her admission, to return at intervals, and were relieved by pressure, or by lying on her stomach. Pressure at the scrobiculus cordis, or on other parts of the abdomen gave no pain. The stools were very nearly white, and urine highly tinged with bile, staining her linen very much. Her skin had not been constantly of a yellow colour till the last month or six weeks. I immediately concluded from the gradual progress of the disease, from the deep dingy colour of the jaundice, the long continued occasional sickness, and the sunk countenance, that the disease

was connected with some organic obstruction pressing at once on the gall ducts and the pylorus, which I entertained no hope of relieving. I determined however to give a little blue pill for a few days, with the carbonate and sulphate of magnesia, which latter I changed on the following day for the compound decoction of aloes, and the bowels being still rather costive, I ordered half an ounce of castor oil upon the 24th. On the following day I observed the stools to present one of those appearances which they sometimes derive from castor oil, being covered with white round masses of the size of peas and larger, and this I pointed out as being a change which the castor oil frequently undergoes in the intestines: but the woman hearing my observation, immediately said that she frequently passed an oily or greasy matter with her stools when she had taken no castor oil or other greasy substance, and she shewed me some of this now about the sides of the vessel, which looked like melted grease, exactly resembling what occurred in the case of Barnes, (Case I.,) but in smaller quantity.

December 1st. The symptoms were not materially altered, but the catamenia, which had hitherto been regular, appeared to-day, a fortnight after the usual period; and as I every day became more and more confirmed in my opinion, that the biliary obstruction depended on organic change, I determined to discontinue even the very limited quantity of blue pill which she had been taking; and she was ordered to have merely the nitric acid mixture for drink.

5th. The catamenia nearly subsided. The discharge had its usual appearance, in no way altered by her complaint, as far as she could perceive. She had rather more pain than usual in her right side.

Habeat extracti taraxaci ℈j ter quotidie et repetatur mixtura acidi nitrici.

6th. I had an opportunity of again seeing some of the fatty matter in her dejections, and gave a portion to Dr. Bostock. As I had strictly forbidden her having either animal food or castor oil, in order that every source of fallacy might, as far as possible, be removed, she had taken neither for the last ten days, except occasionally a small quantity of broth and a little butter with her bread. These were the only sources from which the fatty matter could have been derived as far as diet was concerned, and she herself altogether rejected the idea of its depending on any thing taken in, as she said it was an occurrence she had very frequently observed since her present illness. The fatty matter formed a thick pellicle over some fluid surrounding a semi-fluid dejection, and formed hard lumps as thick as a penny-piece around the edges of the fæces.

December 7th. She suffered considerable pain in the lower part of the abdomen, and had been sick at the stomach, vomiting a ropy grumous fluid.

Habeat infusi Gentian comp. ℥iss c̄ Sodæ subcarbo-

natis gr. xv. et extracti taraxaci ℈j forma pilul. ter die.

I had this day, for the first time, an opportunity of conversing with the poor woman's husband, to whom I stated my conviction that the disease was of a fixed organic character and not capable of cure, although by carefully watching symptoms, much might be done to alleviate suffering. He therefore resolved to take his wife back to Gravesend, promising to let me know when the fatal termination should take place, as I was exceedingly anxious to see whether, in this case, the head of the pancreas itself and the duodenum were the seat of disease, as in the case of Barnes, where the same peculiar fatty matter had been passed from the bowels.

No very marked change took place after her return home, but she suffered more pain in the stomach and bowels, which was relieved by opiates. After a few weeks she passed some dark motions like pitch, and about a week before her death a considerable quantity of clear blood which formed large coagula. During the several last days of her life she became exceedingly drowsy, and for 24 hours before death slept almost constantly.

She died on the 16th of February, and as her husband sent me information immediately, I lost no time in repairing to Gravesend, where, with the kind assistance of Mr. Beaumont and Mr. Russell, a careful inspection

took place. Judging from the history and progress of symptoms, and assuming the possibility that the peculiar fatty discharge might be connected with the same condition of the viscera, and probably of the pancreas and duodenum, as in the case of Barnes, I predicted that the appearances would correspond in the two cases, and certainly the result shewed a very remarkable similarity.

*Sectio Cadaveris, Feb.* 18, 1829.—Skin generally of a deep yellow colour, varying in parts to greenish brown, not very unlike the dark colour of the Creole. General emaciation, but by no means to the extent sometimes seen; indeed on the abdomen, there was a considerable portion of fat of a deep yellow colour.

The lungs were in a very healthy state, except that they were both bound firmly at the posterior part by very strong adhesive bands, and the whole surface was tinged moderately with bile. Heart healthy, but small and not firm.

On opening the abdomen, the omentum rather loaded with fat. No peritoneal disease or adhesion, except on the superior surface of the liver which was attached in several parts by long adhesions to the diaphragm.

The cause of pressure on the bile ducts was immediately obvious; for on placing the hand near the pylo-

rus a hard lump of the size of a common egg was easily felt, and was soon discovered to be the head of the pancreas itself, and not the glands surrounding that part, forming a yellow mass like the boiled udder of a cow, almost cartilaginous. Its texture was uniformly hard and unyielding, and the whole pancreas partook of the same, but in a less degree. The head of the pancreas was firmly and inseparably glued to the duodenum, and the hardness very nearly surrounded that viscus. Laying open the duodenum, its internal surface was uneven and ulcerated, the ulcer having eroded the whole of the coats, and in the portion lying on the head of the pancreas it was of a soft consistence and light yellow colour, communicating with the substance of the tumour here irregularly softened or suppurating to the extent of a small chesnut. In the midst of the ulcer a little nipple-like body was seen projecting on its surface, which proved to be the orifice of the common duct of the gall bladder. This was still pervious as the thick bile could be squeezed out of the gall bladder through it. But it was obvious that this had either lately become pervious by the ulceration of its orifice, or the ulceration of the hard mass in which it was imbedded, or that its situation in the contracted duodenum had acted as a compressing cause; for the gall bladder was distended, containing at least four ounces of thick dark green bile which stained the lining membrane of the deepest colour. The gall bladder, though thus loaded, was not tense, and conveyed the idea of a somewhat flaccid bag, so that I should have pro-

nounced it to have been more distended lately than at the present moment. The disease of the mucous coat of the intestines occupied the outside of the ridge forming the pylorus, which was strongly marked, but was not scirrhous; yet on passing the finger before the pylorus was cut open, the hardened neighbouring structure produced all the effect of a stricture.

The liver was of its natural size, containing several round tubera sprinkled through various parts, from the size of a grain of rice to that of a nutmeg. These were not very numerous, but five or six were seen on the superior surface where they were perfectly circular, and a little depressed in the centre. They were decidedly harder than the surrounding liver, but did not separate freely from it; on the contrary, generally seemed to be shaded off into the surrounding parts and the texture of the liver was discernible in them. The larger tubera were soft and yellow in the centre. The general structure of the liver was healthy, rather soft, and of a dark olive green colour. The biliary ducts were enormously distended, their branches near the margins of the liver were visible on the surface, and they were filled with a fluid watery bile.

The mucous membrane of the stomach was rather spongy, of a reddish tint, and it contained half a pint of brown grumous matter, apparently secreted from its surface. We examined several portions of the mucous membrane both of the small and large intestines, but they presented nothing peculiar except a

rather spongy texture, and on some parts a grey colour. The spleen was healthy but soft. The kidneys large and flaccid, tinged with bile throughout, particularly their lining membrane. The large vessels appeared healthy and the lumbar and other glands were not diseased. The bladder contained some yellow urine. The uterus was rather thick and round in its form, the cavity large, and the glands at the mouth of that organ put on the appearance of vesicles at first sight. They were distended with glairy almost gelatinous mucus of a yellow colour, which could with some force be squeezed from their orifices.

In this case it is possible that the disease of the pancreas was first set up, and had existed for some time, perhaps for some years, giving rise to the occasional rejection of food: latterly this disease had increased to the extent of pressing on the biliary ducts and retaining the bile both in the gall-bladder and in the liver. By this means morbid action, and perhaps deposit of some portions of the bile, took place in the substance of the liver, and it may be a question how far, in a constitution predisposed, this may lead to the formation of the peculiar modification of the tubercles observed in cases of this kind. As the disease proceeded to ulceration the bile made its escape partially into the intestines.

*CASE III.*

*Pancreas diseased—malignant ulceration of the intestines — slight jaundice — fatty matter discharged from the intestines.*

Jane Davis, aged 21, was admitted under my care into Guy's Hospital, July 13, 1831, labouring under anasarca, chiefly affecting the lower extremities. Her abdomen was also swollen, though there was no distinct fluctuation. Her countenance was sallow and her lips purple, and some of the whiter parts of the face slightly jaundiced. The conjunctiva was also very slightly yellow. She was by no means emaciated in her general appearance, but was restless, and preferred lying in a raised position. I learnt from strict enquiry that she had lived rather an irregular life, and had been much out of health for nearly two years, but for the last two months had shewn more decided illness. She was herself inclined to date her present complaints to having been exposed to wet on the 18th of last month, about the time when she expected her catamenia, after which she had shivering, followed by perspiration, and a constipated state of bowels, all which was attended by cough and some expectoration. In this state, but growing worse and worse, she had continued, till about five days ago, when her legs began to swell.

14. Her bowels had been copiously opened without medicine. I saw the evacuations, they were abundant, of a pultaceous consistence, very deficient in bile, and most dreadfully fœtid. The chamber pot

was completely filled, and on the surface was observed a thin scum like a thin film of grease which collected and coagulated as grease more decidedly upon the side of the vessel. The lower and more fluid parts of the contents of the vessel looked slightly tinged with blood. It was doubted whether some parts were not purulent. Placing the hand on the abdomen, the upper part was distended and rather tender, particularly towards the right side, where an indistinct hardness could be felt, somewhat resembling the liver.

Applicetur emplastrum ammoniaci c̄ hydrargyr. scobiculo cordis.

Habeat hydrag. c̄ cret. gr. ij, pulver ipecac. comp. gr. ij, et infus. Gentian. c̄ Soda ter die.

No marked change took place in the character of the stools or the urine, but the patient lost strength. The evacuations continued copious, fetid, and of a dark clay colour, with the fatty pellicle on the surface. The disease of the lips subsided but the tendency to jaundice increased, and on the 19th, after passing a restless night, she expired.

*Sectio Cadaveris.*—The whole body was decidedly tinged with bile, some yellow serum escaped from the abdomen when it was opened. The liver was immediately seen considerably enlarged from distension and of a dark olive green colour. The fundus of the gall-bladder projected, it was distended with bile of a dark green colour. The quantity which it contained

could not have been less than four ounces, and the ducts were as large as the little finger till they entered the duodenum where the orifice was very small, and it required considerable force to make the bile pass into the intestines. The whole of the intestines were somewhat distended, and in several places, when viewed externally, their puckered and discoloured appearance plainly indicated that mischief had been going on within, and at one part of the small intestines, an actual perforation, large enough to admit the point of the little finger, had taken place, but a slight adhesion which gave way in the examination prevented the feculent matter from being effused.

The whole course of the intestines was now laid open, and fungoid excrescences and ulcerations were found distributed at irregular intervals from their commencement at the pylorus, to the termination of the colon. Whether any existed in the rectum, I am not quite certain. These ulcers might be traced throughout their whole progress. They began by small elevations, generally upon the edges of the convolutions of a light yellow or white substance, and those which had arrived at the size of a pea, generally had a depression in the centre as if from partial ulceration. The depressed part was softer than the surrounding edge, and if the tumour was squeezed, a whitish puriform or cerebriform matter issued from pores upon its surface. This, however, was better seen when the whole disc had increased to the size of a sixpence. About this time, or sometimes sooner, the surface lost its light and clean appearance, and

became covered, sometimes with a sloughy mass, but more frequently with a dark grumous coat, apparently from blood, which had exuded, and become changed on its surface. The mass was now elevated nearly half an inch, the edges inverted or cup-shaped, and the centre either raised with the loose fungoid slough and blood, or if this had come away, was deeply excavated, going on in its progress to perforate the substance. In two instances, these fungoid ulcerations communicated immediately with large fungoid excrescences, probably glands situate externally to the intestine. One of these was close to the ileo-colic valve, where the external ulcer was black with grumous exudation, and formed the mouth of a cavity which would admit the finger into a mass involving the glands of the mesocolon. Another of the same kind, but less completely opening into the external diseased mass, occurred in a portion of the duodenum.

The mesenteric glands were involved in this disease, and the renal capsules, but more particularly the left, had suffered from the same affection.

The kidneys were healthy. The uterus was also healthy, but its appendages had suffered great irritation. One of the fimbriated extremities was completely bound down, and the orifice obliterated, and the ovaries were corrugated and contained vesicles in different states of disease.

In the liver no fungoid disease shewed itself, but its texture was natural, though gorged with bile.

The pancreas was most deeply involved in the disease. It formed a hard mass near its head, and then a more healthy portion intervening, another hardened mass was seen near to the spleen, when another small portion remained healthy at its termination, so that it might be said to be occupied by two fungoid tubercles, which involved two thirds of its whole structure. The limits of these diseased masses were not distinctly defined, but they were of a more yellow colour than the rest of the organ, and destroyed the lobular structure of the gland.

The spleen was unusually small.

In the chest the same disease was found affecting the bronchial glands, and in the form of one round fungoid tubercle of the size of a moderate plum, in the apex of one of the lungs; this was imbedded completely in the substance, and was of a yellow white colour.

In this case, then, the disease of the pancreas, and the ulceration of the duodenum were to a very marked extent; but the obstruction of the common ducts was not so complete as in the two former instances; and it must also be observed, that the fatty excretion, though very well marked, was decidedly less abundant than in the other.

When we draw a comparison between the three foregoing cases, a very close analogy, or even identity,

in many circumstances may be traced. In all of them chronic ailment terminated, sooner or later, in jaundice, and in all of them a great peculiarity in the character of the dejections existed. In the result of examination after death we have likewise some circumstances which exactly coincide in all—*obstructed biliary ducts; the liver gorged with bile; fungoid disease* attacking the *head of the pancreas,* and *malignant ulceration* on the surface of the *duodenum.* The question to be solved is, upon which of the diseased conditions indicated, or caused by these morbid changes, if upon either, the peculiarity of the alvine evacuations depended? That the obstruction of the biliary ducts, or even the total absence of all indication of biliary secretion is not usually attended by the same peculiarity in the evacuations, many cases which have been cautiously detailed by various authors, and many which we have all observed, bear sufficient testimony; and I was therefore induced to ascribe it either to the existence of malignant disease, or to that disease being situated in the pancreas. That the simple fact of the malignant disease existing is not *necessarily* productive of such appearances in the feculent matter, I infer from cases both of that form of disease and of melanosis in the liver to a very great extent, being, within the scope of my own experience, unaccompanied by any such discharge, though the evacuations were submitted to the most rigid observation. That simple ulceration in the bowels, to any known extent, is not attended by any such symptom, I am led to believe from knowing that neither in the

most extensive ulcerations of the large intestines in dysentery, nor in the worst cases of ulceration of the small intestines in fever, in diarrhœa, or in phthisis, does any thing of the kind usually occur. Whether, however, malignant ulceration of the mucous membrane is accompanied by this symptom, I cannot assert, though I have often seen most extensive malignant ulcers of the pylorus and of the rectum, where, though the evacuations were attentively observed, such fatty matter was not detected. As, however, a malignant ulceration of the membrane did exist in each of the foregoing cases, it is not impossible that this was the cause of this symptom; but we must bear in mind that such ulcerations are *by no means* uncommon, and that the phenomenon of which I am speaking *is* uncommon, and that in each of the cases it was accompanied by another morbid appearance, which is not common, namely, the malignant disease of the pancreas. The fact of the intestinal ulceration having, in each case, occupied the duodenum does, however, somewhat diminish the weight of this observation, for that is certainly not so frequent an occurrence. I own I was, after the first two cases had occurred, so much inclined to ascribe the fatty evacuation to the disease of the pancreas, that in the two following cases, in which I was consulted, in the autumn of 1830, where disease of the pancreas was suspected, I was induced, from the absence of this symptom, to withhold my assent to the diagnosis, and I had no reason to regret my caution. In both instances I had been requested by the physicians in attendance to see cases,

of which the characters were very obscure, and in which pancreatic disease was suspected. Though of course with all that doubt which intelligent men, well acquainted with their profession, must feel when reasoning upon a disease of which, as yet, we possess such uncertain indications.

### *CASE IV.*

The first case was that of a coachman, who had suffered the usual exposures of his situation, and had for several months been wasting and growing pallid, and complaining of constant deep-seated pain at the scrobiculus cordis going to the back. Although considerably emaciated at the time I saw him, no tumour was to be felt in any part of the abdomen. There was not the slightest appearance of jaundice, and no sickness at the stomach, nor was there any thing to indicate disease in the lungs.

It was under this absence of positive symptoms, that my friend had turned his views to the pancreas; and having been called upon to give my opinion, and not having an opportunity of seeing the evacuations at that time, I requested that they might be carefully observed, and if none of the fatty matter which I described should be discovered, I said that the data did not appear to me sufficiently distinct to found an opinion that the pancreas was diseased. I could not assert that it was not, but that probably some other change was slowly taking place in the abdomen, the

nature of which was not plainly indicated. The stools were carefully watched, and none of the fatty matter appeared, he continued to lose flesh, and a hardness was perceptible at the pit of the stomach before he died.

On examination after death, tumours of a scirrhous character were found in the liver, in Glisson's capsule, and at the small curvature of the stomach, but the pancreas was perfectly healthy.

### *CASE V.*

The second case was that of a man, aged 50, who had suffered deep-seated pain at the Scrobiculus cordis for several months, together with occasional palpitation of the heart, and abdominal pulsation. He wasted much and lost his colour, but no tumour, nor aneurismal enlargement could be felt. It was evident that the heart was diseased. No direct proof could be obtained of abdominal disease, and as nothing of the peculiar fatty appearance could be discovered in the alvine evacuations, I refused to assent to the opinion which had been entertained of the existence of pancreatic obstruction. About a month after I saw this man he gradually sunk, becoming slightly jaundiced a day or two before his death, having also had cough, with mucous expectoration.

*Sectio Cadaveris.*— Very general and old adhesions were found between the pleura costalis and the

pleura pulmonalis, some parts of the lung were hepatized from old disease, while other parts were emphysematous, and some recent irritation was observable in the bronchial membrane. The heart adhered very closely to every part of the pericardium, and was enlarged in its substance universally. The mitral valves and the semilunar valves of the aorta were slightly diseased.

The liver contained a good deal of blood, which was distributed irregularly between the acini, so as to give a mottled or nutmeg appearance. The acini were light coloured, a little tinged with bile. The gall bladder was full of bile, but not distended beyond its natural size. The ducts were pervious; but it was with some difficulty we could make the bile pass from the gall-bladder to the duodenum, apparently owing to its tenacious condition. The pancreas was perfectly healthy, nor was there any material derangement in the other abdominal viscera.

Thus, then, these two cases seemed to bear testimony in favour of the diagnostic mark I had formed to myself; but it must be confessed that, though I was not wrong in my negative diagnosis in these cases, it is highly probable that the grounds on which I proceeded were fallacious, so that I should not now have introduced these cases, but as very strongly shewing the insufficiency of all our present diagnostic marks. I say that the grounds of my diagnosis were probably fallacious, for we shall find in the following

cases almost all the circumstances of the disease, and of the dissection, including the fungoid disease of the pancreas, coinciding with the three I have previously detailed; but the peculiar symptom on which I had laid stress was apparently wanting; still, however, none of the cases will be found to be exactly parallel.

I had no opportunity of seeing the first of these cases, though I was frequently consulted respecting it during its progress; but on most particular enquiries from Dr. Hull, of Montrose, who attentively watched it, I could not discover that the peculiar dejections had ever occurred. I must however say, that these enquiries were not made till after the patient's death, and that the observation of the medical men in attendance was never decidedly drawn to the question of fatty evacuations during life. I shall relate both the symptoms and the dissection as I received them at different times from Dr. Hull.

*CASE VI.*

Mrs. ——, aged 76, a lady of a full habit of body, has had a family of fourteen children, of whom the youngest is 34 years of age. She enjoyed excellent health till within six months, but has had occasional headaches, followed by bilious vomiting. She has taken a great deal of regular though not severe exercise, and has very rarely required any medicine whatever.

About the month of May, 1827, she began to feel

occasional pains in her back and sides, coldness of her knees, slight giddiness, dimness of vision, specks floating before her eyes, occasional palpitation of the heart, particularly on first going to bed. Bowels sluggish, so as to require laxatives frequently, which always relieved her for some time.

These symptoms gradually increased, and, in the beginning of December, a constant uneasiness, with a sense of weight and distension of the stomach, with frequent eructations were added, and the palpitation became very distressing at night. A severe pain was experienced in the side, immediately under the right mamma, extending across the body, and down to the groin, sometimes on one side, sometimes on the other, often on both; at other times, the pain was more severe in the back over the kidneys. The pulse and tongue were quite natural; urine very scanty, of a pinkish colour, depositing a copious muddy deposit; the stools, except after medicine, always costive, but natural in appearance, though generally accompanied with a considerable quantity of mucus. The skin rather dry. No thirst. She complained much of a peculiar sensation, as if a button were placed under her stays, directly over the spinous process of the third dorsal vertebra, which spot was tender to touch, but presented no diseased appearance on examination. She was able to lie only on the left side, and experienced very acute pain and great difficulty in turning, or even altering

her position in bed. She was oppressed with general lassitude, and indifferent to what were formerly her greatest amusements and chief occupations.

"About the 26th of December, a considerable change took place in the appearance of the evacuations. The urine became of a much higher colour, and the stools bore a whitish clay-like aspect; her countenance assumed a bilious tinge. The pain of the side was much more acute, and fixed to a particular spot. Nausea also was superadded to her other distressing feelings. The jaundice became gradually more and more confirmed, and towards the middle of April anasarca began to occupy the legs, and effusion took place in the abdomen.

"No material amendment occurred in any of the symptoms, but she grew gradually weaker, and died on the first of June, 1828.

"*Sectio Cadaveris.*—On opening the abdomen, we found the omentum unusually thickened, and extending down into the pelvis, to which it adhered: the omentum also formed the contents of an umbilical hernia, to which the patient had been long subject. On raising the omentum, the first object which presented itself was the gall-bladder enormously distended, and projecting above the stomach in the position in which the body lay. The gall-bladder exceeded three inches in diameter near its fundus,

and in length measured six and a half inches, the cystic duct forming, with the gall-bladder, one straight pouch. The common duct was dilated to about one inch in diameter, and at its termination, where it should enter the duodenum, formed an absolute *cul de sac*, resembling the point of the thumb of a glove, the whole completely tense from distention. When cut open, and the contents washed out, the continuation of the duct was found completely obliterated. The contents of the gall-bladder and duct together were about eight ounces of a thick perfectly black fluid, resembling paint.

" The liver adhered slightly in two places to the diaphragm, but was in other respects quite healthy, and rather smaller than usual, but perfectly gorged with the same inspissated bile. The stomach empty, and healthy in appearance. The duodenum considerably thickened and somewhat contracted, the thickening gradually increasing from the pylorus to the part where the ductus choledochus usually enters, and where it came in contact with the pancreas, to which it adhered. The pancreas itself much larger than usual, and presenting a confused mass of scirrhous disease, involving the termination of the ductus choledochus in the same diseased structure, and becoming totally impervious.

" The intestines, with the exception of the duodenum, healthy throughout; the spleen, kidneys, ute-

rus, and ovaries, were also healthy. As was to be expected, the intestines were loaded with fatty matter, deeply tinged with bile.

"The cavity of the abdomen contained about three quarts of thick fluid, resembling healthy bile, and from the noise in moving the body, there was no doubt a considerable quantity in the thorax also, but we were not permitted to examine."

---

Thus then we have a case which approaches so nearly to the first three, as to render it very difficult to explain why any essential symptom should differ; and indeed, the only point of distinction seems to be the condition of the duodenum, which, in all the other cases, had been affected by malignant ulceration, but in the present case was only united by the scirrhous disease to the pancreas. By this case, therefore, as far as the negative evidence of one fact can go, we are deprived of the assistance of the peculiar fatty dejection as diagnostic of interruption in the function, or lesion in the structure of the pancreas, unless associated with disease of the neighbouring intestine. At least, if it has this origin when it occurs, it is not a *constant* symptom.

In the following case, malignant disease occupied a large portion of the pancreas towards its middle, but neither was the *head* of that organ diseased, nor

was there any malignant ulceration in the intestine, though there was slight communication of the disease to its structure.

### *CASE VII.*

*Extensive Malignant Disease in the Mesentery and Glandular System, involving a large portion of the middle of the Pancreas.—Mucous Membrane of the Intestines not ulcerated.—No fatty dejection observed.*

Mr. ——, aged 35, called upon me for advice, June 16th, 1831, being the subject at that time of abdominal tumours. There were several tumours, but the two chief masses were the one above and the other below the umbilicus. The upper mass which did not quite reach to the pit of the stomach, was about the size of the fist, and on its upper part there was an elastic portion, as if it were an intestine distended with air, lying upon the tumour. The lower mass lay below, and a little to the left of, the umbilicus, rising towards the margin of the ribs on the left side, but not to be traced as passing under them. This gentleman was able to walk about and transact his affairs as usual, and his complexion was good, but he complained of considerable loss of general strength, and this was increasing. He stated that ten months before, having previously enjoyed good health, he was supposed to labour under inflammation of the liver, for which he was bled, and other remedies were employed which gave him relief, but left

him weak, and of this he never completely recovered; but he had not perceived the tumours till three months before the present time. I considered them to be connected with the omentum and peritoneum, but recommended that his bowels should be well opened, lest any part of the enlargement should depend on hardened fæces, for he was himself impressed with a belief, by no means uncommon in such cases, that his bowels had not been fully acted upon.

I heard no more of this patient till the 9th of April, 1832, when I was informed by Mr. Bassett of his death, and by his kindness I was afforded an opportunity of seeing the diseased parts. I learnt from that gentleman, that since I saw him he had been twice completely jaundiced; that his urine was high coloured, and his stools clay-coloured and yeast-like; but neither fatty matter nor mucus had been observed to be passed with them, and a few days before death they became very dark. He was greatly emaciated, and Mr. Bassett thought that the tumours had diminished lately, which he ascribed to the use of an ointment of iodine.

*Sectio Cadaveris.*—The liver was healthy in its general appearance, and was not gorged with bile; but there was on the convex surface, and near the margin of the right lobe, one scirrhous tuber about the size of a shilling, and on the same surface, further back, a few more, not larger than peas. They were as hard as cartilage, and did not appear to amalgamate in the slightest degree with the general sub-

stance of the liver. About four more, of the size of marbles, were found deep-seated in the substance of the right lobe, and a considerable number of a smaller size, some not larger than the smallest grain of mustard-seed.

The gall-bladder was greatly distended, at least six or eight inches in length, of a long oval shape, slightly tinged with green, but filled with colourless fluid.

It was found, that the upper tumour, which had been detected during life, consisted of a large moveable mass connected with the omentum, and hanging about two inches from the stomach, to the large curvature of which it was attached, at about one third from its pyloric extremity. The remaining portion of the omentum was almost completely free from the disease.

The lower tumour owed its form to an immense mass of a botryoidal figure, which arose from the root of the mesentery, and occupied the greater part of it. This mass rose up, and projected forwards in a very remarkable way, so as to displace the small intestines, most of which were driven towards the pelvis. This tumour was of great extent, involving the aorta and iliacs, and passing up along the course of the spine, and uniting with another large mass which occupied the situation of Glisson's capsule, involving the pancreas, and extending across to the kidneys, including the renal capsules.

With regard to the pancreas itself, a portion of about three inches near to the spleen could be distinctly traced, though it was contracted by pressure to the size of the little finger, not apparently altered in structure, except by compression. As it passed towards the right side, it lost itself in the diseased mass, so that it was not possible to say where it ended or the disease began. I am, however, inclined to say, that the organ itself, or at least the cellular membrane uniting its lobules, was the seat of disease, because the duct, enlarged to the size of a small quill, was easily traced passing through the hard diseased mass, without having any of the natural substance of the pancreas around it. Another portion of the pancreas, at its right extremity, was also to be traced, of a tolerably natural texture.

The Renal capsules were both involved like the pancreas, so that it was difficult to say whether the disease actually occupied their structure or was superadded; but they appeared to me to be pervaded so completely by the disease, that in one of them a very small portion only retained its natural structure: of the other more remained perfect.

The spleen was healthy, as were the kidneys, except that a tubercle, like those in the liver, grew from the peritoneal covering of the right kidney.

On more careful examination of the biliary and pancreatic ducts, it was found, that the cystic duct was, like the gall-bladder itself, distended with a colourless

fluid, and that the hepatic duct, which was also much enlarged, was empty, but stained with bile, while the common duct was small and contracted. This arose from the pressure of the diseased mass, which closed the orifice of the cystic duct, and produced a certain degree of stricture in the hepatic duct, but so as by no means to obstruct it completely.

The pancreatic duct was large during the greater part of its passage through the diseased mass, but was obstructed, so as not to allow the passage of a small probe when it reached the more healthy part of the organ: a probe could, however, be introduced from the orifice in the duodenum, and passed up the duct to the diseased portion.

The absorbent glands in different parts of the body, as in the axilla, groins, and neck, were enlarged, hard, and scirrhous. The disease certainly attacked the absorbent glands much more than is often the case in the true fungoid disease. The glands in the mesentery, near to the intestine, were scarcely if at all enlarged, but there was a line of hard white bodies along the mesocolon, between the great mass of disease and the intestines, which seemed to consist of hardened glands.

In every part, the diseased masses assumed a round or oval form, and an almost cartilaginous hardness; there was no cavity in any of them, but some of them were slightly creamy in their texture when cut into, and scraped with the scalpel, while in some several

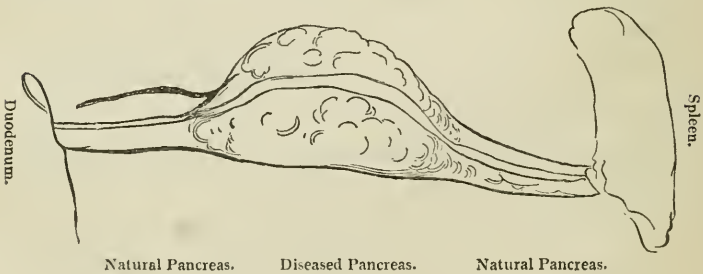
opake spots were observable, some of which had a cetaceous feel; these opake spots were distributed throughout the tumours, and, in some instances, occupied their circumference or surface, so that when they were dried and cut through, they seemed to form an interrupted case. The tumours generally grew quite separate, so that, in this respect, being each of an oval form, they gave very greatly the idea of being enlarged absorbent glands.

The mucous membrane of the duodenum was decidedly diseased, though in an incipient state. It appeared as if the same malignant disease were establishing itself there beneath the membrane, and producing an irregular and slightly botryoidal surface, as if a few small particles of cauliflower were distributed upon it. The appearance ceased entirely at the pylorus. The head of the pancreas was not welded to the duodenum, nor was the structure of the intestine thickened generally: it was altogether free from any union with the diseased mass around which it turned. The mucous membrane of the other intestines, which I examined in various parts, was healthy.

*Chest.*—I had not an opportunity of examining the chest myself, but I understood that it was healthy, except that one small malignant tumour was found attached to the surface of the heart.

After long and careful examination, it was found that the cystic and hepatic ducts had both been greatly dilated, while the common duct was small, the cause of which was the external tumour which almost closed the orifice of the cystic duct, and produced a certain degree of stricture upon the hepatic, but by no means so as to obstruct it completely.

The pancreatic duct was large while it passed through the diseased mass (*a*), but seemed to have been obstructed (*b*), (at least would not suffer the passage of a probe,) before it reached the more healthy part of the organ; but it admitted of a probe being introduced from the orifice in the duodenum (*c*).



In this case, the disease was confined to the middle part of the pancreas, while that part towards the duodenum was tolerably, if not completely healthy, and the duodenum itself was not deeply involved in disease. It is, therefore, a question in this case, supposing it to be a fact that the fatty excretion did not exist, whether that might not depend upon the disease not occupying the head of the pancreas.

The two attacks of jaundice in this case, in all probability, arose from temporary causes, producing the complete closing of the hepatic duct, as there is no doubt it had been greatly distended at some former period, though pervious at the time of death.

The following case bears a strong analogy to those now under consideration, but the peculiar evacuations did not occur, or (which is very improbable) were not observed; and the only difference in the morbid appearance was, that the pancreas itself was not so decidedly the seat of the disease, but, at the same time, its duct was distended from obstruction, and the duodenum was ulcerated, so that this case will, more than any I have seen, militate against the unvarying occurrence of the symptom in connection with disease such as I have described.

*CASE VIII.*

William Dempsey, aged 43, a sailor, who had been in various climates, both hot and cold, was admitted into Guy's Hospital, under my care, January 30th, 1828, being at that time the subject of well-marked jaundice. It appeared that about thirteen weeks before, he first experienced a sense of weight, and a lassitude all over him, with occasional pain in the abdomen. About a week after, he perceived that his stools were white and his urine high coloured, his skin becoming at the same time yellow. These symptoms had all gradually increased—his bowels had been relaxed the whole time, and for the last eight or nine weeks he had experienced a sense of itching over the body and head. At the time of his admission, the colour of the jaundice was deep and dingy, the stools shewed that no bile passed by the intestines; the urine was yellow, and did not coagulate. He was evidently much emaciated, though his appetite was unusually great. He complained of pain at the pit of the stomach, where an indistinct hardness was at that time to be perceived.

He was ordered to take a scruple of the extract of taraxacum three times a-day, and a few grains of blue pill, with half a grain of opium every night at bed-time. But after five days, the yellow colour of the skin appearing rather to increase, and the pain at the pit of

the stomach to remain stationary, and the gums being slightly affected, he was cupped to the amount of twelve ounces from the pit of the stomach, and the blue pill was given up; the taraxacum alone being continued with the addition of a dram of the tincture of hop. After this, he appeared to improve a little; his bowels were less relaxed, and he complained of very little, except weakness and some uneasiness at the pit of the stomach.

It is not necessary, however, to detail all the circumstances which occurred during the progress of this case: it is sufficient for our present purpose to state, that the irregular and hard liver, as well as the distended gall-bladder, were easily recognized by the touch; that the colour of the skin remained dark and dingy; that he was frequently lost in a state of drowsiness; that emaciation went on; that a great tendency to the effusion of blood showed itself by different hemorrhages; that the stomach was often oppressed with flatus, and towards the end of life, vomiting became more frequent, particularly in the evening; that diarrhœa frequently occurred; and that the evacuations varied in colour, and were latterly very watery; but that on no occasion was the fatty matter detected, though the character of the stools was frequently noted.

He continued to express not only hope of ultimate recovery, but a strong conviction that he improved,

to the last; and always, till the day before his death, insisted upon getting up.

About two o'clock in the morning of the 24th of August, he was seized with a most severe vomiting of dark-coloured fluid, which continued at intervals through the day, exhausting him greatly; but he remained sensible to the last, and in the evening, just after having drunk nearly half a pint of water, he died in perfect tranquillity.

*Sectio Cadaveris*, Aug. 25th, 1828.—His body was greatly emaciated, and the whole skin of a deep yellow colour. The integuments of the abdomen were so thin, that the tuberculated liver was distinctly felt as an irregular hard body, and on raising them, they were found quite deprived of all fatty matter. The cellular tissue was yellow, and the sternum and cartilages of the ribs looked yellow, owing to the colour of the surrounding cellular membrane. The serous membrane investing the lungs and the pleura costalis were yellow. An ounce or two of dark yellow serum was found in the cavity of the chest. The lungs were healthy, except some emphysematous dilatation of the air-cells, which, however, were not ruptured. The pericardium was yellow, and contained about two drams of a clear yellow fluid, quite mucilaginous in its consistence, drawing out in strings of an inch or two in length. The heart very small.

The peritoneum was coloured with yellow, and the liver immediately shewed itself to be studded pretty regularly in every part with distinct yellow fungoid tubercles; the general substance of the organ being of a deep olive green. The fundus of the gall-bladder of the size of a swan's egg was seen in its usual position, projecting beyond the margin of the liver.

On careful examination it was found, that no part of the liver was free from a distribution of the fungoid masses, varying from the size of a pea to that of a pigeon's egg or larger; and around the gall-bladder a mass of yellow white fungoid matter, of the size of a lemon, occupied the acute edge of the liver, descending towards Glisson's capsule; this mass was becoming softened, and assuming a brownish yellow colour towards its centre. The tubera or diseased portions assumed a more or less rounded form, projecting on the surface of the liver, with depressions in their centres, and a number of opake spots were sprinkled over them; their edges both externally and on the cut surfaces appeared indeed at first view to be sufficiently defined; but on close examination, they were found blending imperceptibly with the structure of the liver itself, so that the fungoid bodies could not by any means be broken or dissected from the liver, being evidently rather of the nature of deposits, in the structure leading to degeneration of the substance of the liver, than mere adventitious or independent growths.

The gall-bladder was opake, and full of an olive green dirty fluid, in which a certain quantity of grumous matter sank to the bottom, and contained a coagulum of blood about the size of a bean. The bile was far from bearing that excessively dark green colour, which I have sometimes found where the liver has been less diseased, and the icterus has depended more entirely on disease external to the liver.

It was impossible to trace distinctly either the hepatic, the cystic, or the common duct; for the mass of disease which was formed about Glisson's capsule by the liver, the head of the pancreas, and the absorbent glands completely involved these parts; but on opening carefully into the hepatic duct where it divides, we found it greatly enlarged, and filled, not with genuine bile, but with a watery, almost colourless, fluid, which on pressure was seen pouring abundantly from the smaller divisions of the bile ducts opening into the large duct.

The pancreas did not feel perfectly healthy, and its surface was sprinkled with opake specks, not unlike those on the surface of the hepatic tubercles. It was not enlarged, but at its head formed a mass with two or three absorbent glands, so that it was almost impossible to say which was pancreas and which absorbent. This mass was altogether of rather a yellow colour, and where the duodenum passed over it, adhesion had taken place to that organ, and a process of softening and ulceration was set up upon the surface of

the duodenum, communicating with a deep sinus in the mass, running towards the liver, in the direction of the biliary ducts. The duct of the pancreas was greatly enlarged, being not less than the largest swan's quill.

The stomach contained a large quantity of dark grumous fluid. The spleen was healthy. The kidneys perfectly so, except that on the surface of the tunic of the right kidney there was a small discoloured patch, which marked an incipient change arising from the contact of the diseased liver. In no other part was there the least tendency to the same alteration of structure.

On opening the head, the dura matter was seen of a bright yellow colour, and the arachnoid itself or the small quantity of serum beneath it was slightly tinged. The serum in the ventricles was tinged, and the choroid plexus looked slightly yellow. There was throughout the medullary portion of the brain a very manifest tendency to sanguineous congestion, and that peculiar mottled colour was evident, as well as the more defined vessels denoting irregular and excessive distribution of blood.

---

It may be said that in all the cases of fatty evacuation from the bowels, which I have detailed, a state of general jaundice existed, and this is in fact true; but in the case of Davis, the jaundice was quite recent, and I once saw this symptom to a very consi-

derable extent in a gentleman, who came to consult Dr. Babington, bringing with him, in a gallipot, the fatty matter, which he stated he had collected the night before, and which he said he passed almost every night, having, for a considerable time, laboured under a diarrhœa, which was always most troublesome soon after he first retired to bed. He was evidently much out of health, had lost flesh, and looked pallid, but had no appearance of jaundice. What was the result of his case, I never could ascertain; but it plainly shewed that the jaundice had no necessary connection with the peculiar excretion.

---

Taking then a general review of the foregoing cases, and recapitulating some of the foregoing observations, we find three instances only, in which the fatty evacuation existed; but in each of them so many morbid causes were combined, that it is necessary, by comparing them with other known facts, to reduce these causes as far as we are able, and in doing this we may observe—1st, that a great deficiency of the biliary secretion is well known very frequently not to produce the effect: 2dly, we also know that most extensive fungoid and melanotic destruction of the liver without jaundice is unattended by this symptom: 3dly, we know that extensive fungoid disease in the liver, with jaundice, does not produce it: 4thly, we know that the more simple and inflammatory diseases of the liver, which cause jaundice, are not characterized by these evacuations: 5thly, we know that the extensive ulceration of the mucous membrane of the intestines, from diseases of

other kinds, are not indicated by a discharge of fatty matter: and 6thly, we have every reason to believe that malignant ulceration frequently exists in various parts of the intestinal canal, from the pylorus to the rectum, but more particularly in these two parts, without this symptom. Thus then we bring the circumstances of the diseased structure, as far as they have hitherto attracted observation, in connection with this symptom, within a narrow limit,— *disease probably malignant of that part of the pancreas, which is near to the duodenum; and ulceration of the duodenum itself.* These are the only two conditions, which can be traced as being peculiar to all the three cases, and there is good reason to believe that in one of the other cases which I have stated, where this symptom was wanting, the ulceration between the duodenum and the pancreas was also wanting; while in the next case a healthy portion of the pancreas intervened between the fungoid disease and the duodenum, and the mucous membrane of the intestine was not ulcerated; and in the last case, the disease was probably rather seated in the absorbent glands than in the pancreas itself. In this last case, however, the duodenum was ulcerated, and the pancreatic duct greatly enlarged from obstruction, and therefore the case almost identical with those in which the fatty discharge had been observed.

I am well aware that deductions of this kind bear too much the appearances of sophistry to be very applicable to our reasonings on the phenomena of disease, and I freely own that they afford but

slender conviction even to my own mind. I offer them, therefore, in no other view than as hints to be improved by future observers, and I will not even affect to decide, whence the peculiar fatty matter is derived: whether it is to be considered as a vitiated secretion from natural structures, which must here be chiefly mucous membranes; or as a discharge from the diseased and ulcerated parts; or as the product of defective digestion of alimentary matter, depending on the imperfect supply or irregular admixture of the biliary and pancreatic or other secretions, or on the perverted and impeded action of the duodenum.

The first case, which I have related, was so complicated in its symptoms from the existence of diabetes, that I was naturally led to doubt how far the general condition of the system induced by, or attendant on that disease, and, which is very frequently marked by fæcal evacuations of a peculiar character, might exert an influence in producing the fatty matter; but as I have seen a great number of diabetic cases, in which this symptom did not occur, and in no other case of diabetes observed it, and as diabetes was not detected, nor even suspected, in the other two cases of this evacuation which I have related, it seems probable that there is no essential connection between the two diseased actions, however much they may occasionally depend upon a common cause, or arise under the same constitutional predisposition. It may, indeed, at last, prove that the appearance to which I have been alluding, is but the

result of ill-digested aliment; but even in that case, it will be very important to ascertain this fact, and to discover on what condition of the alimentary canal the different appearances, which are sometimes produced by fatty and oily substances, depend. The material, which most frequently, affords an opportunity for such observations to the physician, is castor oil, which seldom fails to produce peculiar appearances in the dejections, of which the most common is a number of yellowish white flakes disseminated through the liquid fæces; but at other times the oil passes, in part unchanged, particularly in children; sometimes a thin greasy pellicle is seen; and in some more rare cases, a great many small white spherical masses are formed in such a way, that they immediately suggest the idea of hydatids, and I have even seen them temporarily mistaken for such.

Should future experience and observation serve in any way to connect the peculiar evacuation, which is at present under consideration, more decidedly with a diseased condition of the pancreas, or an imperfect action of the duodenum, which would, in all probability, be associated with pancreatic derangement, it will possess much interest, as at this moment our knowledge of the symptoms attendant on the derangements of the pancreas, is very imperfect. Dr. Pemberton, in his straight-forward way of viewing disease, confesses this fact, reducing his diagnosis almost entirely to negative proofs, so that he says, "if we have deep-seated pain in the region of the stomach, and more

or less of sickness and emaciation, unattended by any other symptoms that mark an original disease of the stomach, of the posterior part of the liver, of the gall-bladder or ducts, or of the small intestines, we may pretty securely pronounce that the disease is situated in the pancreas." Now, most undoubtedly, if we feel such confidence in our means of detecting all those diseases, which might produce the symptoms here mentioned, except disease of the pancreas, and ascertain that none of those diseases exist, we necessarily infer that the only remaining organ, is the seat of disease. This, however, requires such a range of knowledge, and such a confidence in a most extensive and difficult field of diagnosis, that it renders our conclusions most unsatisfactory, and unless we can arrive at something more tangible, our diagnosis will seldom rise beyond the standard of probable conjecture.

In the minor degrees of pancreatic derangement, perhaps the local pain is the only symptom from which, in the present state of our knowledge, we can expect to derive any information; but when the volume of the gland increases, or its structure undergoes considerable change, it is possible, that by its pressure it will produce some effects upon the functions of the surrounding organs, of which indigestion, sickness, and jaundice are the most prominent; but as all these arise from a variety of causes, they are not calculated to throw much light on the disease; when combined, however, they naturally fix our

attention upon one determinate point, in which the pancreas, from its situation, may be implicated. I am not aware of any peculiarity in the character of the sickness, or of the dyspepsia, or even of the pain which is yet proved to afford decided evidence of the pancreas being deranged, though it is highly probable that we shall hereafter discover peculiarities arising in these respects from the superabundant or deficient supply of the pancreatic secretion, which will be sufficiently marked. The profuse watery discharge in pyrosis, for instance, may well be conceived to have such an origin.

If the fatty dejections to which I have been referring, should indeed depend either on the derangement of the pancreas or of the duodenum, I should be far from expecting that such derangement had necessarily gone on to actual disorganization in all cases; for besides the individual to whom I have formerly referred, as bringing this peculiar secretion to Dr. Babington, I have been consulted respecting another train of symptoms, by a gentleman who had been in the East Indies, and who stated that, when in that country, and labouring under the effects of the climate, his stools had often borne the appearance of fat broth which had been suffered to grow cold, and in neither of these cases was there evidence of any advanced structural change.

With regard to the jaundice connected with pancreatic disease, the history of its gradual progress,

and the dark dingy hue which it assumes, the emaciation with which it is attended, and the frequent opportunity which this affords of ascertaining the distended fundus of the gall-bladder long before death; these, if not marks decidedly diagnostic, are, at least, such as direct us to the probable existence of disease in the pancreas; but some more positive indication is still wanting, which may possibly be hereafter recognized in the peculiarities of the alvine evacuations.

There is but one further observation, which I would make in connexion with the cases which have been related. All of those in which the oily evacuation has been observed, have been cases of decided malignant, and (as far as the pancreas is concerned) we might perhaps say, scirrhous, disease. Now it is a fact, which I have observed in several cases, that the bile is very apt to undergo that change, which leads to the deposit of concretions of adipocire in the gall-bladder, in patients labouring under scirrhus, as females with scirrhous mammæ, for instance, where the disease either has or has not attacked internal organs, and I think it arises as a fair question, therefore, whether the peculiar appearances of the alimentary discharges may not depend on the same disposition, be it what it may, which leads to this unnatural deposit in the gall-bladder; and should this prove to be the case, the symptom would be diagnostic of the nature of the diseased action rather than of its seat.

# CASE

OF

# JAUNDICE

WITH

# DISCHARGE OF FATTY MATTER

FROM THE BOWELS,

AND A

# CONTRACTED STATE OF THE DUODENUM.

BY E. A. LLOYD, ESQ.,

ASSISTANT SURGEON TO ST. BARTHOLOMEW'S HOSPITAL,
SURGEON TO CHRIST'S HOSPITAL, ETC.

READ NOVEMBER 27TH, 1832.

Mr. A. B., aged 48, died April 17th, 1832. He had long been subject to symptoms of dyspepsia, for the removal of which, he took, almost daily, some aperient medicines, never feeling comfortable, unless he had two or three alvine evacuations a day. He was not a large eater; but, from early life, he had always lived well, and drank from half a pint to a pint of wine daily.

In June, 1831, having eaten heartily of crayfish, he was, during the night, seized with violent pain in his stomach. On this account, a little brandy and water was taken, which afforded some relief.

But in the evening the pain was still very severe, so that a calomel pill, and a pretty active aperient draught were administered. The bowels having

been freely opened, the pain became very much less. On the following day, however, there was still considerable uneasiness, and pressure on the precordia occasioned pain. A dose of soda tartarizata and magnesia combined was therefore prescribed, to be taken twice daily, and five grs. of pil. hydrarg. every night. Great attention was also directed to be paid to the diet. Under this treatment, at first, some improvement took place; but tenderness continued to be felt, when pressure was made on the epigastric region, and more especially towards the right side. The part was therefore covered with a plaster of ammoniacum with mercury. At this time, the patient's general health could scarcely be said to be disturbed at all. His appetite was good, and the symptoms of dyspepsia were not greater than he commonly experienced. The tongue was whiter and more furred than natural, but the pulse was not disturbed. The plaster had not been on many days before it occasioned considerable irritation, and an eruption of small vesicles from the whole of the surface to which it was applied. This was succeeded by an attack of urticaria, which continued for nearly a fortnight. As the urticaria receded, the tenderness in the epigastric region, which had nearly subsided after the application of the plaster, again increased. It was now more diffused, and there was great fulness of the whole right hypochondriac and epigastric regions. At the same time there was a sharp attack of pyrexia, dry, hot skin, white and greatly furred tongue, pulse from 120 to 130, restlessness, and loss of appetite.

These symptoms were combated by copious bleeding, and other antiphlogistic means, and thus were speedily subdued. But, notwithstanding the subsidence of the acute symptoms, the epigastric region remained fuller than natural, and considerable tenderness continued to be felt, when pressure was made a little below the cartilage of the eighth rib, of the right side. At this time, (about a month after the first attack,) an indication of jaundice was first observed, and in a few days the whole body became of a deep yellow colour, the urine loaded with bile, as also were the saliva, tears, mucus of the nose, and the serum of some blood that was drawn from the arm. The alvine evacuations were of the colour of pipe clay. There was now nothing like febrile action; the temperature of the skin was natural, the appetite was good, the bowels acted regularly, indeed more plentifully than was habitual, and with the exception of the jaundice, the general health could hardly be said to be deranged. The patient, however, though he ate plentifully, did not appear to regain any of the flesh or strength, which he had lost during the acute stages of the attack. Having continued in this state, not a particle of bile passing, for several months, he went to Brighton, to try the effect of change of air, and more exercise. He remained there for between six and seven weeks, living well, and taking horse exercise daily; but while there, instead of his health improving, he evidently lost ground.

On the evening of his return home, the 28th of

December, I saw him. I found him reduced in flesh and strength; his skin was hot, his pulse was upwards of 120, his tongue white and much furred, there was great fulness with tenderness about the epigastric region; and about the situation where there had been tenderness on pressure from the first, viz., on the right side, a little below the cartilage of the eighth rib, a solid tumour or mass could be distinctly felt. The skin was now, if possible, of deeper yellow colour than before, the urine as much as ever loaded with bile, and the alvine evacuations of the same pipe-clay colour as at first. In the enlarged portion of the liver, which occupied the epigastrium, fluctuation could be felt. This was owing, as was afterwards proved, to the great distention of the gall-bladder, and of the ducts in the liver. By the employment of mild antiphlogistic measures, the acute symptoms were readily removed. After this, the patient continued much in the same state; no material change whatever taking place, till about the middle of February, 1832. Then, for the first time, was observed in the motions an oily or fatty matter, of a brownish yellow colour, about the consistence of butter. It swam in, and concreted on the surface of water, like grease, or fat, that had been melted; was rendered fluid at a moderate heat, and was very combustible, burning with a bright bluish flame. When it passed from the bowels, it was almost fluid; but as it cooled it quickly became of the consistence of butter. It was sometimes of rather firmer consistence, as if mixed with a little wax. It continued

to pass occasionally for about seven weeks, sometimes in larger quantities than at other; on one occasion, there must have been, at least, a table spoonful, as it nearly covered the bottom of the pan of the night chair, and scarcely any fæces had passed with it. It formed itself with an irregular, and elevated margin, at the bottom of the pan, just as would have been the case with so much fat, if it had been poured in, in a melted state. Sometimes portions of it would be mixed with the fæces; but generally the two matters were distinct. It varied in shade of colour, being sometimes much darker than at others; but its colour was always yellow.

Contemporary with the first appearance of this matter, the alvine evacuations became of a darker colour, but never assumed that of fæces coloured by healthy bile. And it was moreover observed, that whenever the fatty matter ceased to pass, the motions grew pale as at first; but they always resumed their darker colour, as the fatty matter reappeared. In the last week of the patient's life, there was none of the fatty matter passed, and during the whole of that time, the motions put on their white pipe-clay colour.

What was the source of the fatty matter, it was, of course, impossible to ascertain with certainty. Dr. Clutterbuck and myself repeatedly examined it, and most carefully investigated its sensible qualities; from which, coupled with the other circumstances that have been mentioned, particularly the

concomitant change of colour in the motions, we were led to infer that it was a morbid secretion of the liver. I believe Dr. Farre and Mr. Armstrong, of Islington, who also attended the patient, were of the same opinion.

There was another new symptom in the case which occurred at this time, or soon after that this matter made its appearance. Hitherto, there had been a total freedom from sickness: now, on the contrary, scarcely a day elapsed without the contents of the stomach being thrown up. The quantity vomited at one time was always great, sometimes amounting to nearly a wash-hand-basin full; and it was evidently, for the most part, the product of what had been taken in during the preceding twelve or twenty-four hours, and not a morbid secretion. It came up without straining, almost without effort, as in a case of stricture of the pylorus; and it was quite palpable, that the vomiting invariably occurred as the consequence of accumulation. There were preceding it no symptoms of unnatural irritability of stomach, there was no nausea, no uneasiness from eating, no indisposition to take food; on the contrary, the moment the stomach had discharged its contents, there was the utmost eagerness to accumulate again. A plate of roast mutton, with a pint of ale or stout, would be then devoured with the greatest avidity. And such was the case till a day or two of the patient's death.

When distended, the stomach could be seen to be occupying the greater part of the front of the abdo-

men, its larger curvature extending almost into the pelvis. Pressure on it would bring on vomiting at any time. Through the whole progress of the disease, the bowels acted regularly, and, indeed, were freely open. The patient's death appeared to be wholly the consequence of exhaustion. He was ill altogether between ten and eleven months.

*Sectio cadaveris.*—Seven hours after death.

The whole of the exterior of the body was of a deep yellow colour. The same colour too, as far as we had an opportunity of observing, pervaded all the different tissues of the body. In the cavity of the abdomen, the stomach, from its immense size, first attracted our attention. It extended far below the umbilicus, and across from one ilium to the other. Its pyloric portion was situated lower down in the cavity than natural, in the right hypochondrium, projecting below the edge of the liver, and rising above the surface of the other viscera, resting upon, and indeed constituting, as it appeared, the more prominent portion of the tumour or mass which had been felt in the right side during life. In the cavity of the stomach, there were contained from three to four pints of a dark coloured thick fluid, smelling of wine, beer, &c., &c., similar to what had been vomited during the last day or two. And such was the size of the stomach, that I think I may fairly state, it would have contained three or four times as much. Notwithstanding its greater size, its coats were thickened,

and its inner surface more vascular than natural. Immediately beneath the pylorus, a hard tumour was discovered, which proved to be principally made up of a portion of the duodenum, the head of the pancreas, some absorbent glands, and condensed cellular substance. The duodenum, towards its middle, including that part into which the ductus communis choledochus enters, was so contracted, that its cavity was in great part, obliterated, so much so, that till separated from its adhesions, it would very little more than admit the larger end of a small blow pipe to pass through it. The greater disease was at the posterior part of the intestine, the part connected with the head of the pancreas. In no other portion of the alimentary canal was any appearance of disease detected. The pancreas was healthy, except at that part more immediately connected with the duodenum, where it had undergone some slight degree of induration, as if it had been inflamed. Its duct, at the termination in the duodenum, was completely obstructed; in the rest of its course, it was not only pervious, but it was larger than natural, and contained a brownish fluid, of rather a yellowish tint, resembling, in some respect, the fatty matter in the state that it was when it passed from the intestine. This, however, unfortunately, escaped at the time the duct was opened, so that we were not able more particularly to examine it.

The liver was enlarged, and in front, its edge extended downwards considerably below the cartilages

of the ribs. The enlargement was greater, at least it was more conspicuous, in its middle portion. In consequence of this, the gall-bladder was thrust lower, and more forwards than natural, and being much distended, was seen projecting between this point and the lesser curvature of the stomach. An incision being made in the liver, several ounces of dark thick bile instantly gushed out, as if a bag of bile had been cut into. But on examination, it proved that the bile had been contained in enlarged pori biliarii, some of which were so large that they readily admitted the fore finger. They existed in an enlarged size, more or less, in every part of the liver, proceeding from near its surface, and directly passing to the hepatic duct, so that there was the freest communication between the bile in them and the contents of the gall-bladder. This condition of the biliary ducts and gall-bladder accounts for the feeling of fluctuation communicated by pressure on the enlarged liver during life, and also for the enlargement appearing to recede under the hand, upon the pressure being kept up for a short time. Before the liver was cut into, the hepatic and common ducts were seen so enormously distended with bile, that they appeared more like a portion of small intestine, than any thing to which we could compare them. The cystic duct was not equally, though in some degree dilated. The common duct was completely pervious to the very surface of the duodenum, but at that point it was so perfectly obstructed, that when air was forcibly blown into it, not the slightest quantity passed into the intestine.

Considering the length of time that its functions had been deranged or interrupted, by which a constant source of irritation was kept up, the structure of the liver had undergone remarkably little alteration, such only as is seen in the simplest form of chronic inflammation. And to this circumstance, I conceive, must be ascribed the very slight degree in which the circulation was disturbed, as well as the general health, during the greater part of the progress of the case.

The other viscera of the abdomen, and mesenteric glands, and also the viscera of the thorax, were free from disease.

It is right for it to be recorded here, that so marked were the symptoms in this case, that during life, the particular seat of the obstruction had not been overlooked, as over and over again in consultation, the suggestion had been thrown out, that it was in the duodenum.

In no part of the body was there the slightest appearance of any malignant disease. The morbid parts were exhibited on the table of the Society.

# ON THE DISCHARGE

OF

# FATTY MATTERS

FROM THE

# ALIMENTARY CANAL AND URINARY PASSAGES.

BY

JOHN ELLIOTSON, M.D., CANTAB., F.R.S.

PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE IN THE UNIVERSITY OF LONDON, PRESIDENT OF THE PHRENOLOGICAL SOCIETY, AND PHYSICIAN TO ST. THOMAS'S HOSPITAL: FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS, ETC. ETC.

READ 27TH NOVEMBER, 1832.

I NEED not remind the Society, that Ambergris, or properly Grey Amber, is a fatty substance, consisting chiefly of something called Ambreine and analogous to Cholesterine; or that it is supposed to be produced by disease in the alimentary canal of the spermaceti whale, (physeter macrocephalus,) from which it is frequently discharged, and is found either floating near the coast or lying on the shore of India, Africa, and Brazil, though sometimes discovered in the animal after death occasioned by its accumulation or the state which gives rise to it. Some declare that it is never seen higher than six or seven feet from the anus; and a mass, amounting to a hundred and eighty-two pounds, has been found in the animal*.

* Phil. Trans. 1783.

Fatty matters, which have an external origin, are occasionally discharged from the *human* alimentary canal. Castor oil is frequently seen liquid in the evacuations. Riverius states that he saw fatty substances passed from the intestines, in one case, after a large quantity of fat had been eaten or had been taken in broths, and, in another, after a large quantity of oil had been swallowed*. Other instances of fatty discharges from the stomach or intestines, liquid or in lumps of various sizes, some unquestionably, and others possibly, derived from external sources, are related in the German Ephemerides †.

Some suppose that olive oil may concrete with mucus when taken into the alimentary canal, and thus explain certain cases of this description ‡.

Old authors, however, detail instances of fatty discharges from the intestines that do not appear to have originated externally; and, of every variety of those old cases, I can adduce a modern and indisputable example.

In some instances the fat was discharged SOLID.

1. Mœllenbroecus relates that a man, at Halle, where he practised, discharged from the bowels, for two years, a large quantity of fatty substance, (*materiem*

* Observationes Medicæ. Cent. 2. Obs. 23. p. 118 sq.

† Ephemerides Medico-Physicæ Germanicæ Curiosæ. annus 2. obs. CLIV.; Dec. 2. ann. 2. p. 97 sq.; Dec. 2. ann. 7. p. 347 sq.; Dec. 2. ann. 2. obs. CLII.

‡ Phil. Trans. 1813. p. 150, sqq.

*pinguem,*) not unlike the fat of beef, grew thin and weak, and died tympanitic *.

2. Mœbius mentions a similar daily discharge of a substance exactly like human fat, (*materiam humanæ pinguedini plane similem,*) from a woman who wasted away †.

3. "A pious and virtuous matron," about fifty years of age and residing at Duisbourg, suffered some years from a pain at the stomach, that was relieved by nothing, and at length became much worse; when, one day, the pain extended all over the abdomen with extreme severity and she discharged above three pounds of fat. From that moment she speedily and perfectly recovered. The fat was white, very pure, and in detached pieces, surrounded with pellicles. It was not mixed with the fæces, had no smell, and was preserved by the woman for many years. Fabricius Hildanus paid a visit, he says, on the 6th of August, 1612, to Dr. Daniel Daniel, the most eminent physician of Duisbourg, who was well acquainted with the matron and had seen the fat. Daniel gave Hildanus a feast worthy of Lucullus, (*necnon Lucullico convivio ab ipso exceptus essem,*) and completed his hospitality by sending for the woman to tell her own story—*ut et ego matronam ipsam viderem, et quæ acciderant, ex proprio ore exciperem, annotaremve* ‡.

* Ephemerides. Dec. 1, an. 2. obs. 20. 1671. † ib.

‡ G. Fabr. Hildani Opera Observat. et curation. Medico-Chirurg. Francofurt. 1746. Cent. IV. obs. 47.

4. In the Edinburgh Medical Essays for 1752 is an account of a weaver, about forty years of age, who, in "attempting to take up a very heavy vessel, felt his back bone, immediately above the os sacrum, make a great crack, with most violent pain in that part and at the superior vertebra of the loins." He fell to the ground, unable to stand, and was with great difficulty carried to bed. The pain long continued very severe; and, fancying the bone dislocated, he made one neighbour pull his belly backwards, while another, getting on his shoulders, pressed them downwards and forwards. Some days afterwards, a country bone-setter made one man pull at his shoulders and another at his legs, putting him to exquisite torture and increasing his complaints. Three months after this, he had just recovered enough to crawl out of doors, and perceived "among his excrements a whitish substance about the bulk of a large walnut, like tallow or hardened marrow, composed of small globules. It melted with heat. During several days after, he observed several pieces of the same sort of substance, of the size of kidney beans or peas, come away with his fæces. He thought all these lesser pieces, if they had been put together, would have been equal to the large piece he passed at first." No further account is given but that the man was still unable to follow his business, and to turn the trunk sidewise without great pain *.

* Med. Essays and Observ. Published by a Society in Edinburgh. Vol. V. part 2.

5. Dr. William Scott, of Howick, related the following case in 1777. "A servant girl, about four or five and twenty years of age, after working hard, in warm weather, cutting down corn, was seized with a pain in the stomach, loathing of food, obstruction of the menses, colics, and pains from flatulency. As the colics frequently seized her, injections, anodynes, and sacred elixir, were administered. After that, I gave vomits and rhubarb boluses with calomel. Upon taking two or three of these she began to void, by stool, fatty substances, in great numbers, about the size of nuts, beans, peas, &c. When these were thrown into the fire they burnt like tallow, which they in every respect resembled. After passing these in small quantities for three weeks, she got clear of all her complaints, and has now continued in very good health these several years."*

6. Dr. Babington, in a letter to Sir Everard Home, published in the Philosophical Transactions for 1813†, mentions a lady who suffered severely, for many years, from what was thought the irritation of gall-stones. She was advised to take occasionally two or three ounces of olive oil at a time. This always gave almost immediate relief, and globular concretions were uniformly found in the motions, from the size of a large pea to that of a moderate grape, of a cream colour, slightly translucent, cutting like wax, and melting by heat. Mr. Brande reported that they

* Duncan's Medical Commentaries. vol. iv. p. 334, sq.

† Phil. Trans. 1813. Part II. p. 150, sq.

consisted of olive oil and mucus, and they were regarded by Sir Everard Home, Dr. Babington, and Mr. Brande, as thus derived from an external source. When, however, I consider that this lady had attacks resembling those of gall-stones before she took the oil, and was speedily relieved by the evacuations which it occasioned; that others have experienced similar discharges, and others similar attacks and discharges, without taking any oil, for example, the woman mentioned by Fabricius Hildanus, the girl mentioned by Dr. Scott, and two whose cases I am now about to relate; that others have wasted away under the discharge of such fatty concretions, for instance, the patients of Mœllenbroccus and Mœbius; and that cases occur in which liquid fat, unquestionably not of external origin, is discharged from the intestines;—I feel convinced that these substances were formed by disease, and, as an animal oil is not easily distinguished from a vegetable fixed oil, I imagine that the oily matter was only presumed to be olive oil.

7. and 8. Mr. Howship, in 1816, published the case of a lady of Scarborough, who was subject to violent attacks of pain in the hepatic region, jaundice, and pyrexia, for several days; and sometimes, at their decline, discharged small masses (some as large as a full-sized grape) of a soft greasy substance, and on taking a pint of olive oil at the recommendation of Dr. Simpson, of New Malton, who had cured a similar case by it, passed an astonishing quantity, and entirely recovered. The substances were of a faint

greenish colour, and burnt away quickly with a flame*.

9. In the museum of the College of Physicians are several white lumps of fat, presented by my predecessor at St. Thomas's Hospital, Dr. T. Turner, and discharged from the bowels of a young lady, who is said, in the catalogue, to have laboured under symptoms of intestinal irritation. I have been favoured with the following account by Dr. Turner.

"The concretions of fat or adipocire which I presented to the College museum, were discharged from the bowels of a young lady, in a solid state, and in the form they at present bear; most of them resembling so nearly the size and shape of blanched almonds, that at first, I thought they were so, and had been swallowed whole. The lady in question was highly hysterical, and at the time she passed these concretions, had been taking daily purgative medicines with the view of reducing an enormous distention of her abdomen, which was very hard and incompressible. The quantity of offensive feculent matter that was brought away from her bowels every day for several weeks was quite astonishing, and bore no proportion to the quantity of food taken, which was very little indeed, and consisted almost entirely of bread and what are usually called slops. From four to eight of

* Practical Observ. in Surgery and Morbid Anatomy. p. 283, sq.

these substances were passed daily for a week or more, and then they ceased altogether, and if I remember right, the daily supply was discharged at one and the first sitting, and were not diffused through the whole number of evacuations, which amounted generally to five or six. The tumefaction of the abdomen was not at all diminished by this constant purgation, but remained unaltered for full three months. It then subsided suddenly without any satisfactory cause that I could make out, though it was attributed at the time, to the use of an enema containing assafœtida. This lady is still alive, and still subject to hysteria, in all its diversified forms."

Other instances are recorded in which the fat was discharged LIQUID, and then concreted into the appearance of butter.

10. Tulpius, in his delightful little book of Observationes Medicæ, relates the following :—

"FAT DISCHARGED EVERY DAY FROM THE BOWELS.

" Alithea Epicornia, a slender delicate woman, who had been frequently indisposed, either from tertian ague or obstruction of the spleen, discharged, at length *every day*, for above fourteen months, a large quantity of *yellow fat*, which *lay upon* the fæces, like melted butter; and sufficient, had it been collected, to have filled a number of vessels *(plurimum flavescentis adipis; incumbentis stercori, instar butyri li-*

*quefacti. Sed eâ plerumque capiâ, ut potuisset, modò quis illum collegisset, replere aliquot vascula.)* When thrown into the fire, it *burnt with a bright flame;* and, after the fæces on which it lay had *cooled,* it *concreted to the consistence of rather solid fat.* But, what was very remarkable, there were neither tormina, emaciation, nor even colliquative fever." "Sixteen years afterwards she was in excellent health." *

11. In the museum of the College of Surgeons is a specimen of exactly such yellow fat, and the case, which also occurred to Dr. Babington, is thus related by Sir Everard Home, in the same paper with the former, as a proof that "fat is sometimes formed in the intestines, and detected passing off with the fæces."—"Elizabeth Ryder, four years and a half old, had been healthy for six months after her birth, when she became thin, had a sallow complexion, and was liable to jaundice. At a year and a half old, her belly was tumid, and she had great weakness in her back and limbs, for which complaints Dr. Babington was first consulted. At three years old, her mother observed something come from her, as she walked across the room, which, when examined, was found to be fat in a liquid state, which concreted when cold. Ever since that time to the present, she has voided, at intervals of ten or fourteen days, the quantity of from one to three ounces, sometimes pure, at others

* Nicolai Tulpii Amstelredamensis, Observationes Medicæ. Amstelædami. 1685.

mixed with fæces: when voided, it has an unusually yellow tinge, and is quite fluid like oil. Her appetite is good, as well as her spirits, and her flesh firm; her belly rather tumid, but not hard; she is subject to occasional griping; her urine natural, and she sleeps well. The specimen was procured under circumstances which precluded all possibility of deception." *

I have witnessed two cases of this description myself, and am able to add the appearances on dissection to the history of the disease so faithfully given by others, as well as the appearances on dissection in a third case.

12. W. P., a patten-maker, aged forty-five, was admitted under my care into St. Thomas's Hospital, labouring under *phthisis* and *diabetes mellitus*. The pectoral symptoms had not been of long duration: the urine, he said, had been excessive for a year and a half, and had occasionally amounted to sixteen pints in the twenty-four hours, but, at his admission, was about four or five only. It afforded an abundant sweet extract.

A very small quantity of blood was taken from the arm for observation, and presented the *buffy coat*.

He ascribed his complaints to grief.

* Phil. Trans. 1813. Part II. p. 152.

Soon after his admission, he complained of excruciating pain in the abdomen and in the back, and of diarrhœa.

At first the pains, though always felt during a motion, were confined to the left half of the abdomen, from the lowest true rib to the iliac region. Soon they became agonizing in the dorsal portion of the spine also: and frequently he complained of them no less all over the abdomen. They appeared dreadful, notwithstanding the exhibition of several grains of opium three times a day, and became almost constant. I generally at last found him sitting double in bed, a posture in which he said he felt relief.

In his stools, which were often rather pale, I observed a quantity of yellow substance, like a concrete oil. On putting it into the fire, it burnt with a large flame like oil. He continued to discharge more or less of this till his death. On some days, none appeared; on others, it came away in large quantity, running from him involuntarily. For, when first discharged, it was liquid; and it afterwards concreted upon the fæces. On one occasion, besides this oily substance, blood passed from the intestines.

After his death, I learned from his wife, that, long before his urine was excessive, he lost blood from the bowels for twelve months: that a quantity of stuff, exactly like butter, was then observed in his motions,

and no blood was discharged afterwards. The quantity of fat, she said, had been enormous ; far surpassing the quantity seen at the time of his admission, and it was not till the hæmorrhage had been replaced by the oily discharge, that he complained of pain. The discharge had continued six months before the urine became excessive.

The fatty substance was shown to Drs. Prout and Farraday, who were satisfied of its oily nature, and the former could detect no difference in it "from human fat when separated from its membranes by heat."

Between the ulceration of his lungs with the expectoration of pus, the discharge of sugar from the urinary organs, and the agonising pains of his abdomen and loins, with the discharge of fat, he grew weaker and thinner; and, although, from the beginning of April, his pains finally ceased, and the quantity of oil became inconsiderable, and the urine had for some time not exceeded four pints every twenty-four hours, he died, completely exhausted, on the 15th of April.

On examination after death, all the intestines looked yellow and greasy, as though they had been soaked in oil. Numerous black points were seen in some parts of their mucous membrane, the same that are frequently noticed after fever and chronic diarrhœa. But no other morbid appearance existed in

the alimentary canal. The liver was healthy and the gall-bladder full of thick dark bile. The pancreatic duct and the larger lateral branches were crammed with white calculi. The kidneys were sound. The lungs were tuberculated and ulcerated.

In some instances, the fat has been discharged BOTH SOLID and LIQUID.

13. Mr. Pearson, of Clapham, obligingly showed me a poor woman labouring under this disease, from which and phthisis she afterwards died. I recollect that she had been formerly in the hospital for severe chronic rheumatism. Her liver was much enlarged and painful. Her urine scanty and pale. She was generally relaxed, and the evacuations were preceded by great pain. She for many months vomited several times a day. The fæces were very pale, and almost destitute of fæcal odour. She passed daily about two ounces and a half of fat, and a third of an ounce of oil; but the quantity of the latter varied considerably. After death, no disease was discernible in the alimentary canal or urinary organs. The liver was healthy in structure, but very large and pale, destitute of bile, no less than the gall-bladder, which contained a thick greasy mucus, not inflammable. Dr. Prout found the fatty substance to be the same as in the other instance.

14. Dr. Prout informs me that he saw a young lady, who, for many months before death, voided from the

intestines large quantities of fatty matter; very similar to that passed from the last two patients, but mixed with blood and other things. After death, the cæcum was found much thickened, and its mucous membrane, as well as a considerable portion of the mucous membrane of the colon, ulcerated. All the other abdominal viscera were perfectly healthy.

Tulpius, however, relates a case in which fat was discharged from BOTH THE BOWELS AND THE BLADDER. It immediately follows the narration of his former case, and he therefore heads it—

"THE SAME FAT FROM BOTH THE BOWELS AND BLADDER;" and begins thus:

15. "But what do we say of Margaret Appelmania, an inn keeper, who, in her seventieth year, discharged precisely similar fat from both the intestines and the bladder, and likewise without fever, emaciation, or colliquative excretion." "Towards the close of the disease, however, she did become feverish, and in consequence so emaciated, that death found her little else than a juiceless, dried up corpse,—*cujus æstu, anile hocce corpusculum adeo emarcuit, ut mors in ipsa, vix quicquam repererit, præter exsuccum, ac aridum cadaver.*"

16. An old lady of my acquaintance, whom I once attended, and for many of whose family I have prescribed, illustrated even this variety of case. I did

not see her in the disease, but Mr. Pearson has favoured me also with the following particulars.

"On the 28th of March, 1829, I visited Mrs. W., aged seventy-nine, who was labouring under a severe attack of gall-stones, a disorder to which she had been occasionally subject for some years. She complained also of a dull pain in the region of the liver that had been felt for some months in a slighter degree. She had suffered frequent pain in the head and giddiness, which latter came in a paroxysm daily about five o'clock before dinner. She also suffered in an almost insupportable degree from prurigo pudendi. Her constitution was gouty, but on the whole pretty good till within the last two years. She had always led a very sedentary life. For some months the fæcal evacuations had been scanty and almost free from fæcal odour. The urine was pale and in proper quantity. She recovered from the attack, but, about a month afterwards, observed, in her evacuations, a thin concreted fatty looking substance, and the stools were, as above described, without the least appearance of bile. She observed that oil also passed the bowels in a liquid state and quickly concreted; and that a similar oil passed with the urine and floated on its surface, but, when removed, concreted into the same appearance as the fat from the intestines. The quantity of oil which escaped from the bowels was such as to oblige her constantly to wear a napkin. The bowels were generally irregular, and each evacuation was usually preceded by

some pain. Various remedial measures were adopted by Mr. Pennington and myself, but nothing did any real good. Without any other particular symptom, the patient emaciated down and died on the 29th of October of the same year. The quantity of fat and oil from the bowels averaged about an ounce and a half daily, when they were relaxed; and from the bladder, about the third of an ounce. The oil and fat from both patients readily inflamed in the fire, and, when mixed with alcali, formed a good soap. No post mortem examination was allowed."

In the Ephemerides some cases are mentioned in which matters, thought to be fatty, passed from the urinary passages: but I hardly think them clear enough to quote. Dr. Prout, however, tells me in a note, that he has "several times seen fatty matter voided with the urine; at least, a substance similar in its properties to that shining adipocirous matter which is frequently met with in encysted tumours or fluids, and which some late French chemists have pronounced to be cholesterine. He has never possessed it in quantity sufficient to ascertain its properties but once, and in this case it appeared to him to more nearly resemble the margaritic acid than cholesterine. For some years past, he has been accustomed to consider this appearance in the urine as most unfavourable, as in every instance in which he has hitherto had an opportunity of tracing the result, malignant disease of the kidney and bladder has supervened, and after a greater or less time proved fatal."

I have thus not merely adduced recent examples of all the old wonderful cases of this kind, and even one example of the most wonderful, in which oil passed from both the intestines and bladder; but have related one more extraordinary than any, in which, while *pus*, a substance not found in the healthy body, was passing from the air passages, *oil* was passing from the intestines, and *sugar* from the urinary organs.

From a comparison of these different cases, it appears that the fatty matters discharged are of various consistence,—some solid ; and some fluid, though concreting in the external temperature. Chemists consider that animal oils are composed of two substances, the one solid and called Stearine, the other fluid and called Elaine, the various proportions of which to each other occasion the different consistence of different oily matters. Upon this diversity of their proportion, therefore, must, I presume, depend the diversity in the consistence of these discharges.

It also appears that organic disease of neither the alimentary canal nor any other part is necessary to the disease, though, in all the cases that have proved *fatal* and been investigated, there have been found marks of disease in either the alimentary

canal, the liver, or the pancreas; and, in many, decided disturbance of the liver occurred during life. The affection, accordingly, has sometimes been temporary, sometimes occasional; sometimes accompanied by various incidental symptoms; sometimes unattended by severe consequences, and sometimes has proved fatal: agreeing in these points with so many other diseases.

It may be a question whether the fatty discharges from the bowels were derived from the liver or the intestines. The pain at the epigastrium and right hypochondrium experienced in some cases, the jaundice sometimes noticed, the total deficiency of bile in the motions of some of the patients, and the unctuous nature of most biliary concretions, together with the natural presence of unctuous substances in the bile, may favour the opinion of their hepatic origin. I am at a loss to say whether the completely oily appearance of the coats of the intestines, in the man whom I opened, favours the opinion of their intestinal origin. If this is their source, I am at a loss to which portion of the tube to ascribe them.

---

In regard to treatment, the lady mentioned by Dr. Babington was always relieved almost at once by a few ounces of olive oil, and Dr. Simpson appears to have cured two cases by the exhibition of an immense dose of it. In imitation of this practice, I gave my

patient two ounces of olive oil for two successive days, and four ounces on the third, which, however, he made two doses of, with the effect of vomiting and purging; and he certainly from that time discharged much less of the oily matter, and suffered much less pain in the abdomen and back. But the disease, I fear, lies as open to enquiry, both in its pathology and its treatment, as the analogous disease of diabetes.

---

A remarkable case, different in some respects from all these, was recorded in the Annali Universali, and quoted by Dr. James Johnson in his Journal for July 1826. A man was in the habit of fasting for a day or two, and then eating the most indigestible substances in excess. At length he was seized with vomiting every week or fortnight for two years. One evening, the attack was more severe than usual, after a great imprudence in diet. When the ordinary vomiting was over, a quantity of pure blood, and a kind of thick oil or melted fat, were thrown up; and amounted in twenty-four hours to *thirty pounds*. He nearly sunk; and his skin hung in folds, as though all the fat had been absorbed. In twenty days he was restored to health, but with a considerable loss of bulk.—It has been supposed that his fat had been suddenly taken up by the absorbents and poured into the stomach; just as the fluid of dropsy, or a large collection of pus, has sometimes been suddenly absorbed and discharged by the alimentary canal or the kidneys.

# CASE

OF

# ŒSOPHAGOTOMY,

WITH REMARKS,

By JAMES M. ARNOTT,

SURGEON TO THE MIDDLESEX HOSPITAL.

READ MARCH 12TH, 1833.

Incision of the œsophagus for the removal of a foreign body is an operation which has been rarely performed. It is stated to have been twice executed in France about a century ago, and once again lately, but I can find no record of its having been done in England. The three cases which occurred on the continent have not been related by the operators, but are mentioned by others who did not possess the advantage of witnessing them; the references are brief and incomplete.

The following details of a case in which recently I had occasion to perform this operation may therefore not be without interest, and I venture to add a few remarks on what appear to me to be the chief points of importance as regards œsophagotomy.

On the afternoon of the 22nd of December, I was

sent for to the Middlesex Hospital, to see a boy two years and a quarter old, who had been brought as an out patient, and was stated to have a piece of bone in his throat which could not be extracted. His father informed me that six days previously, the child had "swallowed" a portion of the thick end of a rib of mutton, and that he had since been unable to get any thing down but fluids,—in other respects he seemed to suffer little,—attempts had been made to remove the bone.

On introducing the finger to the utmost extent, deep below the entrance of the glottis and on the right side, a piece of bone could just be touched projecting upwards. I endeavoured to unfix it, but it was too low. Gullet forceps and Weiss's urethra forceps were tried, but could not be applied so as to seize it. A hook attached to a piece of whalebone, and another of strong wire were ineffectually endeavoured to be passed beyond it. An emetic was given which was followed by severe straining, (vomiting did not take place, probably from there being nothing in the stomach:) but the position of the bone was unaltered. Lastly, I applied gentle pressure with the tip of the finger on its point, but it did not undergo the least displacement.

Foiled in my endeavours to remove the bone, I desired the child to be received into the hospital, that I might have the benefit of a consultation upon the expediency of extracting it by incision of the œso-

phagus, but the father declined leaving him. There were no urgent symptoms, and some hope was entertained that the bone might become loosened and be expelled upwards, or that it might gradually slip downwards. The usual means were adopted for preventing inflammation, and the father was enjoined to bring the child immediately to the hospital, should any distressing symptom supervene.

For a fortnight, no additional suffering was experienced, but emaciation took place; and on the child being brought to the hospital on the 16th of January, I felt the bone in the same situation as before, and again attempted its extraction. After some delay, caused by the irregular attendance of the parents, I succeeded in obtaining a consultation, and my colleagues having failed in their endeavours to remove the bone, acceded to the propriety of the operation of œsophagotomy, which was performed on the 21st of January, almost four weeks after the accident. For the last few days, the child's breathing had become occasionally oppressed, and more especially so at night. The bone formed no prominence and could not be discovered externally, nor could either of the gentlemen above alluded to, reach it with the finger. I could, however, still touch it, and as it seemed to be fixed at the termination of the pharynx or the commencement of the œsophagus, I determined to cut into the tube immediately behind the lower part of the cricoid cartilage.

The child being laid on its back upon a pillow, and the head turned a little to the left, an incision was made on the right side of the neck in the sulcus between the sterno-mastoid muscle on the outer, and the larynx and trachea on the inner side. It was commenced opposite to the upper part of the thyroid cartilage, and carried downwards about an inch and three quarters in length. In the subcutaneous cellular substance two vessels which bled were tied. Beneath the fascia, the omo-hyodeus muscle presented itself, running diagonally across the wound; it was readily pulled to the inner side, and the division of the cellular substance continued; the knife being directed inwards upon the edge of the larynx and trachea, (so as to avoid the carotid artery,) until the outer part of the sterno-thyroid muscle was exposed. The further separation of the parts was effected by the handle of the scalpel and the fingers. Two vessels which resisted the traction on the cellular substance, and ran laterally into the right lobe of the thyroid gland, which now started into view, had a ligature put round them by way of precaution. By means of a blunt hook, the gland was drawn inwards, and the larynx turned a little round on its axis, but the finger applied behind the lower part of this did not distinguish the bone. A male silver catheter was now introduced by the mouth, and its point made to project through the wound, carrying the dilateable gullet upon it. Into this, a small incision was made, and a pair of polypus forceps being inserted, the blades were expand-

ed, and the wound easily dilated in a perpendicular direction, so as to admit the finger. With this, the bone was felt about half an inch lower down than the aperture, and the forceps being re-inserted it was laid hold of, disengaged, and extracted; and proved to be the spinous process of one of the lower dorsal vertebræ of a sheep.

The child bore the operation well, little blood was lost, and no difficulty was experienced from the motions of the larynx, which I had in some measure apprehended from the disturbance of respiration the preceding night, and some action of the alæ nasi observed immediately previous to the operation. It was, at first, contemplated to unite the wound by the first intention, but considering the little probability of this taking place, and anticipating a necessity which subsequently occurred, this was abandoned.

For some hours after the operation, the child's breathing was somewhat interrupted by mucus collecting in the throat, about the entrance of the glottis; but this being expelled, partly by the mouth, and partly by the wound, he had a good night. He had been fed by means of an elastic gum catheter passed through the mouth; but the following morning some difficulty occurred in carrying it down, and as it was judged imprudent to urge it, lest ulceration of

the œsophagus had taken place, and pressure might be injuriously applied, it was introduced through the wound, which was easily accomplished, and was the method adhered to. This day was passed tranquilly; but in the course of the second night, the child's breathing was laborious, and on the morning of the succeeding day, was accompanied by wheezing: he was at the same time severely purged. In the afternoon, the difficulty of breathing increased, the countenance became anxious and slightly livid, and death occurred at nine p. m., fifty-six hours subsequent to the operation.

On examination of the body, slight redness was perceived at the under part of the pharynx. There were two points of superficial ulceration, or rather abrasion, in the upper part and on opposite sides of the œsophagus. The opening made in the gullet by the operation was one half in the pharynx, and the other in the œsophagus, or rather, the under half was below the lower margin of the cricoid cartilage. There was no appearance of suppuration between the pharyx and œsophagus, and the anterior surface of the cervical vertebræ. The entrance to the glottis and the cavity of the larynx presented their natural appearance, as well as the upper part of the trachea; but the under part of this tube and the bronchi were inflamed. The right lung, with the exception of its upper part, was hepatized, and portions of it thrown into water, sunk. Sections of it presented a mottled gray appearance and granulated texture, with here

and there a drop of yellow matter from the extremity of the bronchial tubes. In a less degree and more partially, hepatization was observed in the left lung.

---

The occasional necessity for the operation of œsophagotomy has been recognized by most systematic writers on surgery, and they have adduced certain circumstances as conditions justifying its performance. They have stated that when a foreign body cannot be extracted or conveyed into the stomach—when it impedes deglutition, and by pressure on the trachea threatens suffocation,—*if it projects externally*, the operation of œsophagotomy ought to be performed. Now in the case which has been related, deglutition was *not* totally interrupted; there was *no* apprehension of suffocation from pressure on the trachea; the body did *not* project externally, and yet the operation was requisite.

That extraneous substances have occasionally remained for some time in the œsophagus, as in other mucous canals, the trachea, bronchi, and urethra, without producing threatening symptoms or immediate injury, and have afterwards been expelled or made their way out, is well known; but experience has shown that fatal consequences, from ulceration of the larynx, trachea, and carotid artery, (all of which have taken place,) may likewise ensue. The issue of the present case proves that an additional evil is

to be dreaded from the detention of a foreign body in the œsophagus, for that the diseased state of the lungs was the cause of its unfavourable termination cannot, I think, be doubted, and it seems equally certain that this had commenced previous to the performance of the operation, excited in all probability by the irritation consequent on the presence of the bone so close upon the trachea and larynx. Had this been earlier removed by incision, the result would, perhaps, have been different, for neither by the operation itself, or in its consequences as regards the parts wounded by it, was there any thing to account for the child's death. The rule of practice then ought to be, when a solid substance, though only of moderate size and irregular shape, has become fixed at the commencement of the œsophagus, or low in the pharynx, and has resisted a fair trial for its extraction or displacement, that its removal should at once be effected by incision, although no urgent symptoms may be present. I insist the more upon this point, because I have reason to believe that the operation has been in several instances omitted, when it ought to have been performed, chiefly from its supposed danger and difficulty, but also from a reliance on the powers of nature. I have particularized the low situation of the substance, as a reason against unnecessary delay, because great difficulty is experienced in seizing it when so placed, and the attempts will, I believe, usually fail.

By most writers, œsophagotomy has been re-

presented as only warranted when the foreign body projects externally, which they seem to consider requisite as a clear indication of its presence, and as a guide for the division of the soft parts. This projection *may* facilitate the operation, but is *not* essential to its safe performance. As long as we are certain of the presence of the extraneous substance, the operation may and ought to be undertaken, even though it not only does *not* project, but cannot be felt externally. If the projection of the œsophagus is deemed adviseable for its easier incision, the means are possessed of producing this artificially.

In performing the operation, the situation of the external incision will, in some measure, depend upon that of the body to be removed, but as the pharynx, tapering gradually in its descent, terminates in the œsophagus, immediately under the larynx, it is here that a bulky substance is most apt to be detained. In reaching the œsophagus at this place, taking as a centre a spot corresponding to the level of the lower margin of the cricoid cartilage and the first ring of the trachea, the only parts of consequence whose injury is to be dreaded are the inferior thyroideal artery and recurrent nerve, (the superior thyroideal artery being too high to run any risk;) but these will not be wounded, if the same plan is adopted as that in the case I have related, of separating the deeper-seated parts by the handle of the scalpel and the finger, instead of by the knife. Here, they were not seen during the operation, in fact, they were not within

the sphere of the wound, for on examining the parts after death, the artery and nerve in question were found below, and on the inner side of it. Still I am satisfied by trials on the dead body, that the artery is likely to be divided, if the operation is completed by the knife, and hence, the expediency of proceeding deliberately, cutting but little at a time, sponging carefully, so as to see and avoid the artery, if possible, or to tie it immediately when cut. The recurrent nerve runs less risk, as it reaches the side of the trachea to which it is attached in its ascent, lower down. I do not allude to the carotid artery as being exposed to any peril. I think with Mr. Allan Burns, that "he must be wanton indeed in the use of his knife, who hurts this vessel."

The only real difficulty in this operation is in the last stage of it when the foreign substance does not project, and the œsophagus is about to be opened. If this canal be left empty and flaccid, this is done neither with ease or certainty; but by the introduction of a catheter through the mouth, when the level of the carotid artery has been reached, the soft and dilateable gullet is readily raised upon its point through the external wound, and above the vessels and nerves in its vicinity, so as to be easily and safely opened. Instead of the catheter, Weiss's urethra forceps may be employed, or the instrument invented by Vacca. A "sonde à flèche" or a "dard" has been recommended by some French surgeons, with which the puncture is to be made from within outwards,

and then upon the stilette which is provided with a groove like a director, the aperture is to be enlarged: this proceeding is more complex, and attended with no advantage. In making the incision into the œsophagus, it is to be remembered, that the recurrent nerve runs in the angle between this tube and the trachea, and therefore, the incision is to be made a little behind this angle. In dilating the aperture in the œsophagus with forceps, I adopted a suggestion of Sir Charles Bell's: had an artery been divided in this situation, the application of a ligature might have been attended with difficulty.

It has been advised, that after this operation, the patient should be nourished solely by means of clysters, and as a certain mode of avoiding disturbance of the parts, it may be worthy of adoption. For the latter reason, and to prevent the effusion of alimentary matters into the cellular substance around the wound in the œsophagus, an elastic gum tube may be introduced into the stomach through the mouth or nose, and left there for several days, or, if this cannot be effected, considering the little probability there is of uniting by the first intention, the tube may be introduced through the wound for the first two days; after this, or even before, the surface of the wound is so agglutinated by effusion of lymph, that no danger of infiltration of the fluid swallowed need be apprehended.

Although unsuccessful in its result, I have not

hesitated to relate the foregoing case, from my desire to remove an impression generally prevalent, that the operation of œsophagotomy is one which is barely justifiable, an impression originating rather in a vague notion of its difficulty and danger, than from an accurate estimate of these. The simple fact of its performance on a child without injury to any important vessel or nerve, will of itself show that although requiring precise anatomical knowledge, it is not an operation of so formidable a character, and may lead to its more ready adoption in cases where it offers the only chance of relief.

New Burlington Street,
Feb. 26th, 1833.

---

*Note.*—Since this paper was read to the Society in March there has appeared in the Journal Universelle et Hebdomodaire of April 20th, a Memoir on œsophagotomy, by M. Begin, containing an account of two cases, (one of them that alluded to by me, as having lately occurred in France,) in which this operation had been performed with success. In both instances the patients were adults, and a piece of bone had stuck in the gullet. The incisions were made on the left side of the neck, in one case (attended with abscess) eleven days after the accident, in the other eight.

# CASES

OF

# SLOUGHING ABSCESS

## CONNECTED WITH THE LIVER,

WITH SOME REMARKS

ON

## ENCYSTED TUMOURS OF THAT ORGAN,

BY CÆSAR HAWKINS, Esq.

SURGEON TO ST. GEORGE'S HOSPITAL, AND LECTURER ON SURGERY.

READ 11TH DECEMBER, 1832, AND 26TH FEBRUARY, 1833.

## *PART I.*

### AQUEOUS ENCYSTED TUMOURS.

*CASE I.*

William Hollock, æt. 31, was admitted into St. George's Hospital, under the care of Dr. Seymour, December 23rd, 1830, giving the following history of himself.

He said he had lived somewhat intemperately for several years in the East Indies, where he had suffered from liver complaint. About seven weeks before his admission he was seized with pain in the right shoulder, followed in a week by violent pain in the situation of the liver, and about a fortnight after this, he perceived a swelling in the right hypochondrium; he was bled and had had leeches applied, and had been salivated by mercury, but without any

diminution of the swelling, or mitigation of his sufferings.

The swelling was of an oblong shape, extending across the abdomen above the umbilicus, to the extent of about four inches, and was situated in the epigastrium and under the margin of the ribs on the right side. The tumour appeared to be connected with the liver, and it seemed that some hardness could be felt in that organ on each side of the swelling, which was very tender and painful, and fluctuated obscurely; but there was no redness of the skin, and the abdominal parietes appeared to be moveable over the surface of the tumour. He complained of constant cough, with copious mucous expectoration. He was thin and looked several years older than he really was, and had an expression of great anxiety from intense suffering. His appetite was bad, the pain kept him constantly awake at night, the urine was high coloured, and there was a light yellowness of the skin and of the conjunctivæ, scarcely amounting however to jaundice. The pulse was 80 and feeble, the tongue clean and moist.

I was requested by my colleague to see him, and on the 15th of January, the tumour having become more prominent, and the fluctuation more evident, it was determined that it should be opened. I passed a trocar into the most prominent part of the swelling about two inches from the margin of the ribs towards the umbilicus, which entered the cavity of the supposed abscess at a depth of about three inches. Five or six ounces of fluid were evacuated through the

canula at the time, without any pressure, and a good deal of the same fluid continued to escape through a gum catheter, which was left in the puncture. The fluid which was removed, was not like common pus, but thick and adhesive, of a dark, yellowish green colour, and of a peculiar though not offensive odour, and upon being mixed with nitric acid, it appeared to contain biliary matter.

He was much relieved by the operation, the cough being lessened, and his rest better; and his health continued to improve till February 18th, when he had gained a little flesh, the discharge during the whole of this time having continued of the same quality, and in considerable quantity. I had been obliged however, on February 1st, to remove the catheter, and slightly to enlarge the wound, the consequence of which was the admixture of a good deal of fluid blood with the matter, the bleeding appearing to take place from the interior of the cavity.

At this time, February 18th, the edges of the puncture ulcerated slightly, the skin around became inflamed and very tender, and he suffered a good deal of pain, with increased discharge from the cavity, which continued till the 22nd. A circular projection now took place on the left side of the aperture, as if the matter of the original abscess had not a free exit, or as if another collection of fluid was taking place; I therefore made another puncture with a broad lancet, about two inches and a half from the first, which gave exit to an ounce of the same fluid as before, with a good deal of arterial blood.

He was still more relieved by this than by the former puncture, the discharge became more purulent and diminished in quantity, his health and spirits improved so much that he was able to walk about on the 1st of March, and by the 18th of April, three months from the first opening of the abscess, the cavity seemed nearly filled up, and he expected to leave the Hospital in a short time.

Now, however, what little discharge remained became mixed with a great deal of arterial blood, and the two apertures began to slough, with much redness of the skin; he began again to look thin and pale, with so much depression of strength that several ounces of brandy and an equal quantity of wine daily appeared necessary to prevent his actually sinking; and he fell into a complete state of despondency, expressing his conviction that he was going to die. He suffered at the same time such acute pain, that six grains of acetate of morphia in the day scarcely gave him any rest, his stomach being also irritable, so that he could not take laudanum.

On May 3rd, the two punctures were joined together in a black sloughing sore, about four inches broad, and two and a half in the short diameter, in the centre of which an aperture still admitted the probe into the original cavity, (which seemed nearly filled up,) below the integuments and muscles, the examination being always extremely painful. The black slough in the centre was surrounded by a thick

prominent circle of integuments, the edges of which were everted and ragged; and below the edges of the ulcerating and sloughing skin, were projections of unhealthy fungous substance, of a whitish colour; and each of these masses added to the size of the sore, as they were successively destroyed by sloughing. The skin around the ulcer was excoriated by the separation of the cuticle, and a circle of skin, three inches broad, all round the ulcer, was thickened and hard and prominent, and of a dark red colour. The discharge from the central opening, and from the surface of the ulcer was thin, and wholly unmixed with pus, but was accompanied with considerable hæmorrhage, and had a very peculiarly nauseous and fœtid smell.

The prominence formed by the integuments and muscles round the ulcer, (which prominence could not be distinguished from the liver,) with the hæmorrhage and peculiar discharge, and the unusual progress and singular appearance of the sloughing sore, (wholly unlike an ordinary gangrenous ulcer, or the sore of hospital gangrene,) suggested to myself, and to many other gentlemen who saw it, the idea of there being a tumour of *Fungus Hæmatodes* in the liver, with which the original abscess had been connected.

The same process continued till June 4th, the sloughing during the whole six weeks having been

almost uniformly progressive, but now and then increased pain was observed, with more of the surrounding redness, and of the projecting masses below the edges of the skin, and the sloughing at these times became more rapid. The surface of the sore was now about fourteen inches broad, and ten in its lesser diameter, from above downwards; great masses of dead skin and muscle had been sometimes cut away, but no tumour had made its way outwards, which seemed at one time probable; the sloughing having also not quite destroyed the whole thickness of the abdominal muscles. Nearly the whole of the abdomen and lower part of the chest around the sore was now of a dark red colour, and presented the prominent and hardened appearance before alluded to, but in a less degree than when the ulcer was smaller. He had now become much emaciated, and required much support, but his appetite did not fail, and he seemed chiefly affected by the excessive pain which prevailed to the last. There never was the least attempt to throw off the sloughs, and form granulations, the sloughs being the whole time attached to the living parts.

He died June 11th, worn out by the pain and irritation, about five months after the abscess was first opened.

It is scarcely necessary to mention the variety of local remedies that were employed to check the sloughing: carrot poultice, stale beer poultice, hem-

lock poultice, solutions of opium and hemlock; stimulants of elemi, turpentine, Fryar's balsam, Peruvian balsam, Barbadoes tar; black wash; solutions of mineral acids and of the chlorides, and concentrated nitric acid. On the whole he seemed to be most relieved for a time by chlorine washes, and by a mixture of conserve of roses with goulard and laudanum, but nothing appeared to have any decided influence in stopping the disease.

On examination after death, it was found that nearly the whole thickness of the abdominal parietes had been destroyed, so that little besides the peritoneum remained, which adhered in part to the corresponding surface of the liver; there was no sign of peritoneal inflammation even close to the sloughs, though so near the membrane. To our great surprise there was no disease whatever of the liver, except slight condensation and granulation, such as is found in persons accustomed to spirits, but this change was by no means well marked. There were no remains of the cavity, which formerly contained the matter, and the only morbid appearance found was slight thickening of the peritoneal covering of the liver, united with that which lines the abdominal muscles; this thickening having taken place to the extent of about an inch, and to the depth of little more than a line, in the centre of which was seen a white substance, looking like a cicatrix, which extended perpendicularly into the liver, to the depth of about half an inch, around which, however, the liver seemed as little

altered in appearance as in any other part. All the other viscera appeared to be quite healthy.

*CASE II.*

Mary Mullens, æt. 22, was admitted into St. George's Hospital, April 30th, 1832, under the care of Mr. Babington, who has been so kind as to give me the following history of the case, which I frequently saw during its progress.

Three months before her admission, after what she called a violent cold, she was attacked by pain in the region of the liver, and about a month after the pain commenced, she observed a small swelling about three inches above the umbilicus, and midway between the linea alba and the edge of the lower ribs on the right side. The swelling had been progressively enlarging since that time, with very considerable pain; she had become jaundiced, and her general health was much disordered. She had been bled, and had had leeches applied.

On her admission there was a large fluctuating tumour, situated at the under margin of the liver, and apparently intimately connected with it, with considerable induration around the swelling, which prevented the outline of the liver itself from being distinguished. There was considerable pain and tenderness on pressure; the whole surface of the body, and the conjunctivæ were of a very light yellow tinge;—the pulse low and weak, and very rapid;—the tongue

dry and covered with a foul brown fur ;—the countenance anxious, as if she was suffering from confinement of matter.

The next day, May 1st, a needle was introduced into the swelling, and on its being ascertained that it contained matter, the opening was enlarged by a lancet, and above 8 oz. of matter evacuated, which gave her immediately great relief from pain ; it was allowed subsequently to escape into a common poultice. The fluid, which was evacuated, was thin, and of a light brown colour, and could scarcely be called purulent ;—it was mixed with nitric acid, but the existence of bile in it was not satisfactorily made out, as it appeared to have been in the former case.

The relief from the pain and fever continued, and she was on the whole less jaundiced, but she had occasionally an attack of fever, and increased pain and yellowness, which was always relieved by a calomel and senna purgative. The discharge continued to be of the same kind, but was occasionally mixed with blood.

In the beginning of June, though her general health was on the whole improved, the discharge became nearly constantly dark, as if mixed with blood ;—excoriation came on in the skin around the puncture, which, by June 26th, extended over a surface as large as an orange, but unattended with much pain, and the integuments below the excoriated part, were hard and prominent, as if germinating

a fungus; the depth and circumference of the cavity were, however, now a good deal diminished.

In a few days after this report, the hardness was succeeded by sloughing of the aperture, which spread slowly and gradually, but with occasionally increased rapidity to a considerable size. The hardness and redness of the skin and separation of the cuticle around the ulcer always preceded the sloughing, and it was observed that a deeper orifice, probably that in the lower tendon of the rectus muscle near the sac, increased slowly in size, while the sloughing of the integuments and abdominal muscles above took place to a much greater extent. The discharge still continued thin and watery, and occasionally mixed with blood, and the smell was peculiarly nauseous and disagreeable, and the excoriation of the skin was invariably greater if the discharge was allowed to rest upon the surface. Masses of white fungous projections were sometimes seen in the cellular texture, where it was exposed by the sloughing of the skin. A variety of applications were employed without avail, as in the former case, and the patient sunk under the disease on the 26th of October; at which time the sloughing surface was about seven inches broad in one direction, and of nearly the same extent in the other, the sloughing process having thus continued for nearly four months.

The cast of the ulcer, which is presented to the notice of the Society, was taken about the middle of

this period, but does not sufficiently point out the differences between the characters of the sloughing sore in these two cases, and those of ordinary gangrenous ulcers; the central orifice also at the bottom of the slough is scarcely shewn in the cast, but may be perceived in some measure in the preparation of the diseased parts, which I have also placed upon the table.

On examining the body it was found that the sloughing had destroyed nearly the whole thickness of the abdominal muscles, in the centre of the sore; the peritoneum lining them being loosely adherent to the surface of the liver, and both layers of this membrane being dark coloured, and almost, if not quite, dead. The cavity of the peritoneum, however, was entire, nor was there any trace of inflammation except to a very small extent round the central opening. The structure of the liver was remarkably healthy throughout, and it was of its natural size; on making a section of it from behind, towards the slough, the line of its natural surface was also seen to have been preserved, but close to the peritoneal covering was a yellowish white mass about the size of a small nut, with slight condensation of the liver around it to the extent of an inch. This substance was broadest towards the slough, and its apex extended about half an inch into the substance of the liver. There was no appearance of the cavity in which the matter was originally confined, unless both in this, as well as in the former case, the white substance was to be regarded as a kind of cicatrix

left by the complete obliteration of the cavity. The other viscera were quite healthy.

---

Throughout the whole progress of this second case the sloughing was much less violent than in the first; there was much less redness of the skin, less induration, less pain and tenderness; the hæmorrhage was not nearly so great, and the patient had less appearance of suffering and anxiety; partly, perhaps, on account of the slower progress of the sloughing, and partly from her having been of a much less irritable temper than the other. But with these comparatively trifling differences, the two cases were very similar to each other. Both of these patients were seized with symptoms of inflammation of the liver, followed by the formation of a tumour, containing fluid, and apparently connected with the liver, and in both of them the fluid was not like that usually contained in an abscess of the liver, though in one, if not in both of them, bile was mixed with the fluid. The patients were both relieved for a time by evacuating the fluid, and the cavity appeared to contract, with proportionate diminution of the discharge, and after death, they were found so far obliterated, that it was difficult to decide positively where the fluid was situated, unless it is conceded that the little firm spot before described, was the remains of the cyst in which the fluid had formerly been contained. In both cases, about a month after the puncture was made, a new action seemed to take place, the discharge became mixed with blood, and a sloughing sore was produced, having a peculiar ap-

pearance, and attended with excessive fætor, and wholly unchecked by either local or constitutional remedies; the aspect of the sore being so peculiar as to suggest the idea of its being the result of a malignant disease, and probably being of the nature of fungus hæmatodes. So singular indeed was this appearance, that, notwithstanding his experience of the result of the former case, my colleague could not help entertaining the same opinion, when the second case came under his own care.

Hollock, indeed, appears on the first commencement of this change in the actions of the part, to have had strength of constitution to throw it off for two months longer, but when it re-commenced, the progress of the sloughing was so much the more rapid; so that he was carried off by it ultimately in the same time as Mullens; both the patients dying about five months after the abscess was opened.

Yet when these patients were examined after death, not only was there no fungus hæmatodes of the liver, but in one case this organ was remarkably healthy, and in the other there was found so little deviation from the natural structure, and that alteration of such every day occurrence, as to be quite insufficient to account for the very singular appearance of the disease, which, as far as I know, has never been described.

It is quite clear, I think, that although the first symptoms of the disease resembled those of *abscess*

*in the liver,* they were not really cases of this kind. The matter evacuated was not purulent, and did not resemble what I have seen in any case of abscess of the liver;—when an abscess forms in this viscus, it takes place in its *substance,* not immediately *below the peritoneal membrane,* and when it makes its way towards the surface, it leaves abundant evidence of the inflammation and ulceration which have attended it;—nor could the cicatrix of an abscess of this organ be so wholly local, as to resemble little white bodies, which seemed to be the remains of the cysts in these cases. The instances indeed in which an abscess of the liver does cicatrize, are extremely rare, and such a process is at least not likely to take place, without a particle of healthy pus, and while a formidable sloughing sore communicated with it; nor do I know any case in which sloughing of a peculiar kind took place after the puncture of an abscess of the liver.

Neither were these cases, which I have narrated, instances of *abscess in the abdominal muscles.* It is true that an abscess, situated *over* the liver, will sometimes produce pain in the right shoulder, and jaundice; and may thus suggest the idea of its being *within* the liver, but such a mistake can only take place previous to a puncture being made. The depth and the situation in which the matter was secreted, in these cases, and the nature of the fluid at once disprove this supposition, independent of the preceding symptoms. In passing the trocar into the cavity, I thought the depth of two inches must, in a thin

person, have penetrated the thickness of the parietes of the abdomen; and when it had reached this depth, I withdrew the trocar, to see if any fluid would flow through the canula, but I was obliged to pass the instrument nearly an inch deeper before the point entered the cavity, in doing which there was a sensation conveyed to my finger of its having passed through a thin layer of the hard texture of the liver. The fluid was also in both cases such as I have never seen formed in abscess of cellular membrane, and certainly in one, if not in both of them, was mixed with bile, which is scarcely likely to occur in an abscess of the abdominal muscles which has proceeded inwards, extravagant indeed as such a supposition must at once appear.

My impression, from a consideration of the symptoms and peculiar progress of these cases, and the examination of the parts after death, is that the disease originated in one of those *encysted tumours*, which not unfrequently form on the surface or at the margin of the liver, below the peritoneal coat, and which may be termed *aqueous encysted tumours*.—These cysts are met with also in a variety of other situations, on the surface of the spleen or kidney, in the spermatic cord, where they are called encysted hydroceles,—in the orbit—in the brain—in the neck —or breast. It is in the ovaria, however, that they perhaps occur most frequently, where they constitute a form of encysted dropsy, described by my friend and colleague Dr. Seymour, and other pathologists,

as depending on an enlargement of the Graaffian vesicles. It is here also that they are seen of the greatest dimensions; in a patient for instance, whom I tapped for the first time in December 1830, I have removed, within the last twelve months, at nine different operations, no less than 530 pints of watery fluid; so that in addition to the ordinary secretions of the body, there must have been formed in the sac on an average, during the whole of this time, about a pint and a half daily, and yet her health has not suffered materially except when the distension becomes very great *.

It has been imagined by Dr. Hodgkin and some other writers, that these cysts originate in the obstruction of an excretory duct in a secreting organ, and Sir A. Cooper in describing a disease of the testis of an analogous, though in some respects different kind in that organ, advances the same opinion of the cells which are there found; but as the enlarged cysts connected with obstruction of the pancreas or salivary glands contain, in their simple state, fluids resembling the natural secretions of those glands, while the cysts in the liver or kidney contain nothing in the least like bile or urine till inflammation has taken place,—and as the encysted tumours of this kind in the liver contain precisely the same fluid which is met with in corresponding encysted tumours of the brain or other parts, where there are

* Since this was written, the quantity removed within twelve months amounted to 620 pints.

*no* excretory ducts,—I am more inclined to attribute their formation in *all* cases to the same cause, (whatever that may be,) than to suppose that they sometimes originate in an obstructed duct, and at other times in cellular texture.

In the 15th Vol. of the Transactions of the Society these cysts, which form in the liver and other situations, are termed by Dr. Hodgkin, *adventitious serous cysts*, from their resemblance to the serous membranes in structure and in the nature of their contents; and in the last volume the same term *serous cyst* is employed by Mr. Lawrence in nearly the same sense, when speaking of some cysts which had been under his care. But it appears to me that in speaking of them in the liver, and perhaps in other situations also, the term *aqueous encysted tumour* will better express their nature and origin.

In the first place the term *encysted tumour* seems to suggest at once the idea of a single membrane secreting its contents, while *serous cysts* are met with in circumstances where they cannot be called *encysted tumours*. There is, for instance, an occasional though rare form of fatty tumour covered by a membrane which is more like the serous membranes in one respect than the cysts we are speaking of, as the thin cyst belonging to it, has its reflected and loose portions, like the pericardium, distinct and moveable upon each other though not containing fluid. Delicate cysts secreting serous fluid are also met with in at least four other orders of tumours,

besides the kind at present under consideration, one of which only, resembles them enough to be called an encysted tumour, and this other order, which is also found in the liver, may be called an *hydatid encysted tumour.*

The *aqueous encysted tumour,* and the *hydatid encysted tumour,* will thus form two orders of a class, in which may be included three others also, which might properly perhaps be called the *sebaceous encysted tumours*, the *bursal encysted tumours,* and the *congenital encysted tumours;* the last three of which, however, do not either of them I believe occur in the liver, and I shall not therefore further allude to them at present; though I must confess there seems to be so much confusion in the terms used in the description of the numerous cases in which *cysts* are met with in different tumours, that I should feel almost inclined to attempt a practical arrangement of them at some future time, unless the subject is previously taken up by some more competent person.

2dly. I prefer the term *aqueous* encysted tumour to that of *serous* encysted tumour, because probably in the origin of all of them the contents are not *serum,* but nearly *pure water,* till the secretion has been altered by inflammation and other circumstances. In other situations indeed, the tumours seldom increase to any great size without some inflammatory action, in consequence of which albumen is deposited, but it will be seen in the cases I shall subsequently mention that the cysts increase in the liver to a great

size, and yet heat will not produce coagulation. This accords with the observations of Dr. Marcet*, who found on examining an hydatid as he terms it, (by which it is evident he means an aqueous encysted tumour attached to the kidney,) that 1000 grains of the fluid contained in the cyst, left 27·3 of animal matter, which he terms *muco-extractive* matter, which was not coagulated by heat, nor gelatinized by cold or concentration, with a saline mass weighing 8·7. In another case, which he describes, a woman laboured under some symptoms of hydrothorax, and a tumour appeared on the side of the chest, which was punctured, so as to afford exit to about a pint of clear and colourless water, which Dr. Marcet at once suspected to have come from an encysted tumour of the lungs, because it contained *muco-extractive* matter, and not *albumen*. I have under my care at the present time, a child with a tumour at the side of the abdomen, the history of the formation of which led me to suppose that it was formed by serous effusion into the peritoneum in consequence of an injury, but upon puncturing it, 18 ounces of water without albumen were evacuated, rendering it probable that the fluid is connected with one of the very tumours under our consideration attached to the liver or kidney, unless it has been derived from a cyst of fungus hæmatodes in which similar fluid is often found†.

If then we pay regard to the nature of the fluid

* In the 2d. Vol. of the Transactions, p. 376.

† This case is detailed at p. 176 of the present volume.

contained in these cysts in the liver, the term *serous cyst* is only applicable to the middle period of their growth; after the fluid has lost its aqueous qualities, and before it has been further changed into purulent fluid, or some one of those numerous kinds of liquid or half solid substances which are sometimes found within the cysts. The name *aqueous encysted tumour*, being derived from their first formation will on the other hand be always applicable to them, if the subsequent changes which the fluid undergoes are borne in mind.

3dly. I prefer this term to that of *serous cyst*, if we regard the *structure* of the cyst itself, as the membrane which secretes the aqueous fluid undergoes considerable changes, in general accordant with the alteration of the secretion. The serous cyst therefore, if the name is given to it from its structure without reference to its contents, becomes changed into a fibrous cyst, or a half solid tumour, or a cartilaginous or an osseous cyst, from some alteration in the action of its vessels during its growth. In the liver indeed, the cyst is more frequently changed into bone, than into a very firm, fibrous cyst, such as is frequently seen in other parts of the body; but I shall mention one case in which even in the liver the cyst was about a quarter of an inch thick.—It may be said, perhaps, that somewhat similar changes are observed in the natural serous membranes, and on this account no doubt the term serous cyst is less objectionable than for the other two reasons I have given. On the whole, how-

ever, I think an *aqueous encysted tumour* is a name which will best express the nature and origin of the tumours, in which I believe the two cases which I have already related, first originated; though any term which is derived from one period only of a disease must be received with considerable latitude, if it is employed still, when various changes have been effected in it.

---

Every person who is in the habit of examining the human body after death, must have often seen these aqueous encysted tumours on the edge or surface of a healthy liver, or slightly embedded in its substance, where they are met with of various sizes, but seldom above that of a walnut; but the fact of their enlargement so as to constitute a disease, and the symptoms produced by the tumour during its progress, are probably little known, and often confounded with those of other diseases.

Indeed the cyst will sometimes increase to a considerable size, and yet the symptoms will remain comparatively trifling as long as the first simple characters of the complaint are still preserved.

*CASE.*

A boy about twelve years of age, was admitted into St. George's Hospital, under the care of Dr. Chambers, in August, 1822, when I resided there as house surgeon, having a tumour of considerable size below the ribs on the right side, the ribs being raised

by the tumour, which evidently fluctuated. He had not the least disturbance of the system, nor any derangement of the functions of the liver, much less were there symptoms of an abscess of that organ; the skin was quite moveable, and free from inflammation, and slight inconvenience from the size and pressure of the tumour, was alone complained of. After he had been in the hospital a short time, a flat trocar was introduced by Mr. Brodie below the ribs, in the part where fluctuation was most distinct, and a pint and half of clear colourless water was drawn off, which did not appear to contain any albumen, as no coagulation was produced by heat. Pressure was made by a bandage after the operation, which appeared to produce complete obliteration of the cyst, for the wound healed directly, the boy had not the least fever or other bad symptom from the operation, and left the hospital perfectly cured.

By the curious coincidence which is so often observed with regard to unusual medical cases, Mr. Brodie had under his care nearly at the same time, another case of the same kind, which he has published an account of in the Medical Gazette *, these being at the time of the publication, the only two cases of the kind which he had seen.

*CASE.*

The greater size of the tumour in this patient, a

* Vol. I. p. 334.

young lady of 20 years of age, prevented her from taking exercise, and from sleeping except in a particular position; and there seemed to be some slight inflammation, as she had some pain at the commencement of the disease, a year or two before, which was increased before the operation, and she suffered from a troublesome and almost incessant cough for the first two or three weeks afterwards. Three pints of the same watery fluid were evacuated, uncoagulated by heat, and with the smallest possible quantity of animal matter. The result of this case is, however, more conclusive than the former, as Mr. Brodie had seen the patient six years afterwards, at which time there had been no return of her former symptoms.

These two cases will therefore serve to show, that, in the early stage of the disorder, while there is a little or no inflammation, the symptoms produced by the tumour are purely those which arise from its pressure upon the liver and adjacent parts; and they serve also to show that a puncture may be safely made into the cyst with a trocar, with the view of obliterating the cavity by union between the sides of the cyst. The next case will show, however, that even after inflammation has taken place, so as to alter the nature of the fluid in some measure, the same result may be obtained.

*CASE.*

A boy, of 14 years of age, was under the care of

Dr. Thomson*, in consequence of a tumour in the right hypochondrium, tense and elastic, and projecting forward so as to be of the size of the fist, and affording an indistinct sensation of fluctuation. The tumour had been growing for two years, and the boy had been twice salivated as for hepatitis, but there never was any pain; there was some sallowness, but no jaundice of the skin, and the general health was unaffected; the boy complained only of considerable difficulty of breathing, and of being wholly unable to sleep except in a nearly erect posture. The tumour was punctured with a hydrocele trocar, and upwards of three pints of watery fluid evacuated, which, however, slightly coagulated on the application of heat. The wound healed, and the disease probably did not return.

Sometimes it appears that the cyst may increase to a very great size, and yet the symptoms may not be sufficiently evident to avoid the chance of mistake.

*CASE.*

Dr. Thomas† mentions a lady who was treated for a long time as for an enlarged and indurated liver, but without those symptoms of biliary derangement, which ought to have led to such a conclusion; and on being tapped sixteen pints of water are said to have been drawn off, the last part of the fluid being mixed with a little lymph. It is said to have been a

* Med. Gaz. Vol. I. 168. † Practice of Physic.

large hydatid, by which, however, is evidently meant an aqueous encysted tumour. The result of the operation is not mentioned, so that it may probably be concluded that the case ended fatally.

But although it appears from this case that a very large quantity of fluid may be collected in these cysts before such pressure is produced as to render an operation absolutely necessary, it will in general be found, that long before the tumour reaches this great size very urgent symptoms are produced by it. These symptoms will still be principally produced by the encroachment of the tumour upon the thorax and consequent compression of the lungs, and if the tumour is so situated as to enlarge chiefly in that direction, the symptoms may for a long time be very obscure, and appear like hydrothorax or hepatization of the lungs, or actual effusion of fluid into the pleuræ may take place; each of which circumstances will be seen in the following cases.

Such a case as the following, indeed, which is described in the Hist. de l' Acad. des Sciences, (1732,) would have probably puzzled any person, as the liver and lungs were all affected.

*CASE.*

A soldier complained, for two years before he died, of very great difficulty in breathing, so that he could only exist in a sitting posture. There was found

after death a cyst on the superior surface of the liver of about three inches in diameter, and containing a yellowish green limpid fluid, and at the bottom of each lung, below the pleura, there was a cyst of a white colour, and a line in thickness, each cyst being about six inches in one diameter, and four in the other, and containing a clear and limpid fluid. All three of these cysts were, no doubt, aqueous encysted tumours.

The symptoms will also become obscure if the cyst is much thickened, so as to give very much the same feeling as that which is communicated by a solid tumour. Dr. Abercrombie mentions a case of this kind *, where fluctuation was with difficulty perceived, although a cyst was punctured, from which 9 or 10 pounds of clear serous fluid were evacuated, and when the patient died, a few days afterwards, another cyst was found between the liver and the posterior part of the diaphragm, containing no less than 18 pounds of clear fluid, in addition to the large quantity that had been extracted from the anterior cyst. The complaint was of only about a year's standing, but from their great size, these two cysts had so much injured the patient's constitution, that although he was relieved by the operation, his strength quickly failed. At the bottom of one of these cysts were two flat bodies consisting of a roll of soft gelatinous membrane which seem-

* Abercrombie on Diseases of the Stomach, p. 356.

ed to have been detached from the interior of the cyst.

But if the existence of a cyst containing fluid on the surface of the liver be large enough to be distinguished through the abdominal muscles, it may be right to puncture it with care, in order to prevent a fatal result from rupture, even if the pressure is *not* such as to render an operation urgent on that account alone.

*CASE.*

A man was brought to St. George's Hospital in June, 1821, very soon after he had fallen from a waggon, some empty baskets having also been thrown down, which fell upon his abdomen as he lay upon the ground. He had been bled before his admission, and was in a very low state, with laborious respiration, and violent pain, and presented the appearance of a man dying of internal hæmorrhage, except that his countenance was not so pallid as it usually is in such cases. His pulse soon rose, and he was again bled, and had thirty-six leeches applied to the abdomen, which had become very tumid and painful. He died, however, a few hours after his admission in excruciating agony.—On opening the abdomen about two quarts of slightly coloured serum were found in the cavity of the peritoneum, which had escaped by the rupture of a large cyst, that lay loose and flaccid on the right side, reaching from the diaphragm above, to which it was firmly united,

nearly to the spine of the ilium. This cyst occupied almost entirely the place of the right lobe of the liver, a thin layer of which was partly expanded over the cyst, while the left lobe and lobulus spigelii were much larger than natural, but perfectly healthy. The interior of the cyst was irregular, and contained, lying loose within it, a thick membrane which was called by some an hydatid, but which was, no doubt, a layer of lymph thrown out by the interior of the cyst, similar to the bodies already mentioned in Dr. Abercrombie's case, and disengaged by the rupture; for its outer surface corresponded exactly with the irregularities of the inside of the cyst, and it could be separated into many layers, the edges of which floated loosely from its inner surface into the serous fluid, which the cyst contained.—No history could be obtained of the previous symptoms, which may have existed in this man, but he had probably not suffered much, as he was actively engaged at the time of the accident, and had the appearance of good health. At all events the fluid was not in the least degree purulent, and although its nature appeared at the time obscure, I have now no doubt that it was one of these aqueous encysted tumours.

This case then shews us the effects of further inflammation in the interior of the cyst, in the formation of a thick layer of lymph; and also the result of continued pressure upon the structure of the liver itself, ending in the expansion of a layer of the liver

over the cyst, and the almost entire destruction of the right lobe by absorption, without any suppuration, an effect which was also observed in a case I shall presently narrate.

It must not be supposed, however, that the danger of rupture by an accident will only attend a large tumour.

*CASE.*

A girl of 8 years of age, had a tumour in the situation of the liver for a considerable time, when she was pushed down violently, and the tumour suddenly disappeared. There succeeded severe inflammatory symptoms with violent purging, of which she died in a short time.—In the inferior and convex portion of the right lobe of the liver was a rupture to the extent of three or four inches, on separating the edges of which there appeared a cavity lined by a cyst, about a line in thickness, which had been ruptured in the same line, and contained nothing whatever, neither vesicles nor hydatids, nor any fluid, nor were its contents discovered, as the abdomen contained no more fluid than usual *.

I conclude, from this history, therefore, that the cyst must have been one of these encysted tumours, the contents of which, being aqueous, had been in

* Hist. de l' Acad. des Sciences, 1759.

part absorbed from the cavity of the peritoneum, into which it had escaped after the injury *.

It is not impossible that the cyst may sometimes be ruptured spontaneously, and a cure effected by the absorption of the fluid from the peritoneal cavity.

*CASE.*

A man, after an eruptive fever was attacked with a sense of weight and pain in the epigastrium and left side, with troublesome cough succeeded by a tumour in the epigastrium. About a month afterwards he suddenly felt the weight detached from the situation of the chest, and descend into the lower part of the abdomen, and chiefly into the right ileo-colic region. There ensued violent pain and vomiting for two hours, succeeded by a state of syncope and insensibility for two hours more; the patient continued in a state of violent agony for some time, but in eight days was out of danger, the tumour not having again made its appearance †.

This case was believed by the narrator to have been an encysted dropsy of the liver, i. e. what I have called an aqueous encysted tumour.

It will be seen from the two next cases that the

* A similar case occurred to Dr. Gregory of Edinburgh, no fluctuation being perceived before the rupture, though apparent afterwards.— Abercrombie on Diseases of the Stomach.

† Ann de Montpellier, v. 12.

further effect of these tumours will be the production of sickness and indigestion by pressure upon the stomach, hydrothorax, ascites, and anasarca of the legs from pressure upon the great veins, and a fatal disturbance of the general health.

*CASE.*

A little girl fell, and received a contusion in the epigastrium, which was, however, little attended to, though she complained constantly of pain. In a year's time a tumour formed, which was hard, no fluctuation was discovered, and the skin was unchanged. The respiration became much impeded, the child became weak and emaciated, and after some time died.—In the cavity of the peritoneum were five or six pints of water, and in the liver were two cysts, each containing three or four pints of water. One of the cysts was situated in each lobe of the liver, and one of them had been ruptured, nearly the whole of the liver itself had been destroyed by the growth of the tumours, and the lungs also were much compressed. It is expressly observed that there were no hydatids, so that these two cysts were, no doubt, of the kind under consideration*.

The following very interesting case of this disease is related by Dr. Hastings †, which shews the great size these cysts may attain, and the symptoms which

* Journal de Medicine, Vol. I. p. 120.

† Midland Med. Reporter, Aug. 1829.

attend them, and in this case also two cysts were formed, but with the curious circumstance, if I rightly understand the account, of one cyst only being close to the abdominal muscles, while the other was above the liver, so as to push the viscus away from the diaphragm.

*CASE.*

The patient, a soldier, 37 years of age, was first attacked by pain in the hypochondrium and right shoulder two years before Dr. Hastings saw him, and the symptoms had gradually increased with great pain.—The abdomen was hard and tumid, and for the most part incompressible; fluctuation was perceived in the pit of the stomach, at first only when he was in the erect posture, but latterly, even when in the supine position, and when he coughed a considerable protrusion was observed at this part. There was also distinct fluctuation at the lower part of the abdomen.

He was tapped by means of an incision with a scalpel, about three inches below the point of the sternum, and about nine pints of fluid were evacuated, the nature of which is not stated. He was much relieved, but two days afterwards his breathing having again become laborious, the canula was a second time introduced into the former wound, and four pints more of fluid were evacuated, after which there was

a constant oozing till his death nine or ten days afterwards.

The seat of the whole of the fluid which had been evacuated is said to have been a fine membrane, forming largish cells, and situated between the peritoneal covering of the liver and the abdominal parietes, no communication existing between the cells of this membrane and the general cavity of the abdomen. The liver seemed almost to fill the cavity of the abdomen, and extended downwards nearly to the pubes, while it pushed up the diaphragm as high as the second rib. The liver adhered extensively to the diaphragm, and between the diaphragm and the liver itself, a vast cyst was formed, which contained nearly fourteen pints of bloody serum; the liver being in other respects healthy. In the abdomen were about eight pints of fluid, somewhat viscid and tinged with bile. The lungs were small and remarkably collapsed, and the cavity of the thorax contained several pints of fluid.

The dissection of this very interesting case is not so clearly described, as might be wished, but Dr. Hastings himself imagines both the cysts to have been instances of the aqueous encysted tumours of the liver.

It is said also there was a small quantity of purulent matter, but where this was found I cannot ex-

actly understand, but I think it is meant to have been discovered in the cavity of the abdomen; it is remarked, however, that no ulcerating surface was perceived from which the pus had been formed.

The preceding cases seem to me to illustrate all the symptoms of this disease, and its consequences upon the neighbouring organs, with the exception of suppuration, and a knowledge of them would in general, I think, enable a careful observer to ascertain the existence of the tumour, and to adopt the only means, which would be likely to relieve the patient from the pressure of the tumour, with a fair chance of success. A case is narrated, however, by Dr. Todd *, in which a mistake might be made, without discredit, on account of its rarity.

*CASE.*

A girl of 14 suffered much pain, succeeded by a tumour in the right hypochondriac and epigastric regions, extending even below the umbilicus, which evidently fluctuated to the right of the linea alba below the ensiform cartilage; the result being emaciation and anasarca, while her skin was of a deep orange colour. It was treated as an abscess, but there were no *rigors* or other symptoms, which could be considered as indicative of suppuration, but, as it appears to me, the symptoms were rather those of extreme irritation and pain from pressure, and might therefore be considered as perhaps arising from one of the

* Dublin Hospital Reports, Vol. I. p. 325.

tumours under our consideration, though the deep tinge of the skin and the anasarca are not often met with. This fluctuating tumour was opened and two quarts of viscid bile evacuated, with a little thin fluid which was supposed to come from the peritoneal cavity. The girl died the next day, when the tumour was found to have been formed by a singular distension of the gall-bladder and the biliary ducts; which still contained another quart of the same green bile, the liver being quite healthy, and the tumour having been produced by the pressure of what is termed a scirrhous pancreas upon the ducts.

There wants then but the occurrence of a higher degree of inflammation, than what took place in any of the preceding cases, and the production of suppuration, to carry the chain of connexion between a simple aqueous encysted tumour of the liver, and the tumours, the sloughing of which was related in the early part of the paper, and such a circumstance is found, I think, in the following case related by Dr. Stocker *.

*CASE.*

A man was seized with pain in the right shoulder and right hypochondrium and slight jaundice, which were considered to indicate the existence of hepatitis. About a month afterwards there was a sudden discharge of blood and pus by stool, and a few days afterwards, after a fit of almost complete suffocation,

* Trans. of the Coll. of Phys. in Ireland, Vol. I. p. 11.

he coughed up from the lungs a large bason full of puriform matter. From this dangerous attack he nearly recovered, but never regained his health entirely, and suffered from occasional rigors, at intervals of a few weeks, puriform matter being still coughed up in small quantities. He died two years after his first attack, when the following appearances were discovered.

A *cyst* was found on the anterior surface of the liver, containing some purulent and grumous fluid. The interior of the cyst was of a vascular texture, and it extended from the left lobe of the liver to the stomach and spleen and to the small intestines, which were all united together; but the communication with the intestinal canal was not perceived, and even the aperture in the diaphragm, by which the matter had been discharged into the lungs was cicatrized at the margin. The liver was large and of a firm consistence, but did not form any part of the abscess, nor were there any tubercles in it.

It cannot of course be affirmed positively by any one who did not see it, that this abscess was in one of the aqueous encysted tumours, but from the terms employed, I think it at the least highly probable.—The existence of a cyst connected with the liver, but the liver being healthy and forming no part of the cavity of the abscess;—the expression *vascular nature* applied to this cyst, which can scarcely be said of an ordinary abscess, the interior of which is generally

more or less granulated and coated with lymph;—the words puriform and grumous fluid, instead of pus, employed to describe the contents of this cyst,—all lead me to this conclusion rather than to the idea of its having been an abscess of a more common kind.—The two cases of sloughing cysts seem to me to have been modifications of abscesses of the same kind, which had made their way towards the abdominal parietes, instead of ulcerating into the lungs and intestines.

From the peculiar nature of these cysts, and of their watery secretions, we should not expect that they would often suppurate, for the same reason that the serous and synovial membranes do not often form pus; we should naturally anticipate also, that when any thing like pus is formed in them, it would not be *healthy* pus, but partake more or less of the aqueous and mucilaginous secretions of the less inflamed cyst, and hence no doubt the cause of the peculiarity observed when the fluid was evacuated, and during the whole time they continued to discharge in the two cases alluded to. In Dr. Stocker's case, however, supposing it to have been one of this kind, as much ulceration was produced in cellular texture, especially in the formation of the large cavity in the lungs which communicated with the cyst, the secretion would necessarily be mixed with more of the usual kinds of pus.—It is remarkable, moreover, and confirmatory of my opinion, that when an *hydatid encysted tumour* of the liver suppurates, the cyst, which resembles the cyst of *aqueous en-*

*cysted tumours* of this organ, forms a similar thick, tenaceous, or watery and mucilaginous fluid instead of pure pus.

It seems in the next place to follow as a necessary consequence of the nature of the fluid, that there should be less of the rigors and perspiration, which usually mark the formation and confinement of matter in ordinary abscesses; nor was this circumstance wanting in these two cases, and it may perhaps be looked upon as another diagnostic mark between an abscess of the liver, and suppuration in an aqueous cyst. In both of them the symptoms were rather those of intense suffering and irritative fever than of distinct suppuration, the indications of which, though sometimes obscure, are seldom altogether wanting in either the acute or chronic abscess in this important organ, and the rigors and perspirations are generally accompanied with more marked jaundice than in the aqueous tumour, even when suppurating; the skin being in one of these cases altogether free from a biliary tinge, and in the other the colour being a peculiarly light yellow.

It only remains for me to account for the remarkable termination of these cases, in the occurrence of frequently repeated hæmorrhage from the cavity of the cyst, and the singular fungous ulceration which took place around the openings. I cannot, it is true, do this by reference to any similar case, otherwise

I should have had to apologise more than I am perhaps even now called upon to do for the length of this paper, but the analogy of similar aqueous encysted tumours in other parts of the body will still bear out the probability; indeed the whole progress of the disease is similar to what takes place in other tumours of this kind, but I will confine myself at present to the hæmorrhage and fungous growth.

The occurrence of hæmorrhage in aqueous encysted tumours will be shewn in the following case, for which I am indebted to Mr. Brodie.

*CASE.*

A woman had a tumour in the neck apparently connected with the thyroid gland, which was punctured, and a small quantity of watery fluid evacuated, but the cyst now became filled with blood, and when re-opened, hæmorrhage continued to take place into its cavity. Mr. Brodie dissected out the cyst, which was thin and membranous, but the patient being of a bad constitution, sloughing took place, which process was also accompanied with a good deal of hæmorrhage, and the woman died of the disease.

So also, although the aqueous encysted tumour of the female breast, in which organ it not unfrequently occurs, will sometimes become obliterated by pressure after a puncture has been made, in the same manner

as in the corresponding encysted tumour of the liver, the wound will in other cases remain open and generate an unhealthy fungus.

*CASE.*

A young woman attended as an out patient of St. George's Hospital with an encysted aqueous tumour at the upper margin of the breast, which fluctuated obscurely, and being punctured by Mr. Brodie several ounces of water were let out. The wound, however, did not heal, and the discharge continued from the cyst, the edges of the opening became thickened and everted and ulcerated, and an unhealthy fungus was generated, with a good deal of pain and constitutional irritation; a circular ulcer was thus formed by the growth of the fungus with very little loss of skin, which was about three inches in diameter, raised and prominent like the ulcer of fungus hæmatodes, but with a central depression leading into the opening of the cyst. There was a copious discharge of thin and very fœtid fluid, the whole breast was enlarged and condensed around the cyst, and the skin around the ulcer to some extent had a dark inflammatory appearance. She was under these circumstances taken into the hospital, and the whole of the diseased mass, including the breast, was removed by Mr. Walker. The wound healed readily, and the patient has since continued well.

A sebaceous encysted tumour will also occasionally inflame and ulcerate, and throw out an unhealthy fungus, with much constitutional disturbance.

When such a fungous tumour is formed under these circumstances, it is often spoken of as having assumed the characters of fungus hæmatodes, but it is I believe wholly different. These cases generally get well after the operation, there is no contamination of the neighbouring parts, nor of the absorbent glands, and the surgeon need be under no apprehension of fungoid disease being established in other parts of the body. I am inclined to think the mistake has arisen from the aqueous encysted tumour having been confounded with those cysts of water or serum which are conjoined with a solid tumour of really malignant character.

Taking then the last two cases into consideration in conjunction with the several others which have been related, there can be little difficulty, I think, in coming to the conclusion that the first two cases, which seemed to present so many curious circumstances during their progress, were instances of *aqueous encysted tumours* on the surface of the liver, in which imperfect suppuration had been established, and in which peculiar actions were subsequently developed.—These cases are certainly rare in any stage of their progress, if we may judge by the little that any single person seems to know of the subject, and

the scattered notices, and confused statements, which are met with in authors.—Perhaps, therefore, the placing together a series of such cases, each of which is in some respects insulated from the rest, will illustrate all the principal facts connected with an interesting and important disease, which may be novel to some members of the Society, and therefore not undeserving of their attention.

---

## *PART II.*

### HYDATID ENCYSTED TUMOURS.

The *aqueous encysted tumour* in any part of the body is very commonly spoken of as an *hydatid*, but I think very loosely and vaguely, so that two diseases which in reality are quite distinct from each other, are confounded together. The resemblance, which has given rise to this error, is the circumstance of there being in each case, in general, a cyst containing water, but it would undoubtedly be much better to confine the term hydatid to the parasitic animal, the hydra hydatula of Linnæus, which may become deposited and increase, in some mysterious way, in any part of an animal body. The hydatid is sometimes found in a cyst, which is most probably formed out of the adjacent parts; so that the whole tumour may thus be called an *hydatid encysted tumour*, but

in other cases the hydatids are found without any covering, or alteration of the cellular texture of the surrounding parts; in either case, however, there is the essential difference between this disease, and the aqueous encysted tumour, which is made by the presence of a parasitic animal in the one case and not in the other. If there *be* a cyst around a quantity of hydatids, it is not to be considered that the cyst is an aqueous cyst of the kind we have formerly considered, which has no more tendency to have hydatids generated within it than the peritoneum has; for when hydatids *are* generated within a serous membrane, they are generally enclosed in a cyst attached to and nourished by the vessels of the serous membrane, in the same manner as when they are generated within the liver; they are also enclosed in a cyst, which is attached to, and nourished by the vessels of the liver. But in either case, whether the hydatid be enclosed in a cyst, or be merely situated in a cavity in the cellular membrane of any part, the hydatid itself has no attachment whatever to the living substance, it is not connected by vessels with it, and the hydatid is nourished by imbibition only, from the secretions of the animal in which it is generated.

The confusion between the two diseases has probably arisen in part from considering the cyst, in which the hydatid itself is enclosed, as constituting an essential part of the disease, and as being in fact the *parent* hydatid, but the membrane which is nourished

by vessels from the parts around, is not to be considered, I think, in any case as more than a *cyst*, and the cyst itself with the hydatids enclosed in it may be spoken of, not improperly, as an *hydatid encysted tumour*, and the term hydatid tumour ought in no case to be applied to any tumour in which a parasitic animal is not found, nor the term hydatid to any cyst which does not possess an independent vitality.

The hydatid generated in the human body is commonly a mere globular bag, consisting of two coats, enclosing a watery or mucilaginous fluid, and if pressed out of a tumour entire, has been seen to contract, so as to alter its figure, and if broken, will roll up in a manner very different to what takes place from the mere mechanical contractility of an elastic dead membrane, and it differs from the hydatid of the sheep, in which animal hydatids are so frequently found, in this respect, that the latter, the *tænia hydatigena*, has generally a mouth and neck added to its globular body, and is apparently endowed with a kind of locomotive power in addition to a vital contractility of a lower kind. I would observe, however, that the two species of hydatid are occasionally intermixed, or there is less essential difference between them than is generally imagined, for the hydatid of the sheep has sometimes no neck, and the human hydatid (Mem. of Med. Soc. of Lond. Vol. 2, p. 516,) has sometimes as distinct a neck, as is

usually seen in those which are taken from the lower animals *.

The term hydatid is however applied still more loosely by some writers, so as to mean almost any cavity whatever; such, for instance, is nearly the sense in which it is employed by Dr. Baron in his ingenious speculations upon the origin of tuberculous diseases.

It is much to be regretted also that the term hydatid is employed indefinitely even by those writers, whose experience teaches them how different the diseases are, which are frequently all spoken of together under the name of hydatids.

Sir Astley Cooper, for instance, in deference to this common but erroneous practice, speaks of four different species of hydatid tumours, one of which he denominates the *animal hydatid*, to distinguish it from the other diseases to which he has given the same name; it is then to this only that the term ought to be restricted, in order to avoid those errors both in theory and practice, which have arisen from the three or four different meanings which are attached to the same word.

* For an account of the generation and increase of hydatids in the human body, see a paper by Dr. J. Hunter in the second volume of the Transactions of a Society for the Improvement of Med. and Chir. Knowledge.

In the Hunterian collection the term *spurious hydatid* is employed by its great founder to describe the *aqueous encysted tumour* in the liver and other parts of the body, but this, though shewing his knowledge of the different nature of the two diseases, I would also wish to discard from medical language, to avoid the possibility of misconception.

I propose in the present part of the paper, to confine myself to the *hydatid encysted tumour* in the *liver*, as I did in the first part with regard to the Aqueous Encysted tumour, except where some peculiarity in other parts of the body will better illustrate its nature in this organ, and to place before the Society a succession of cases to illustrate the history of this disease, when it takes place in the liver, so as to complete the account of two diseases, which are probably but little known, as a very imperfect detail of them is to be found in any work with which I am acquainted.

The cyst in which the hydatids in the liver are enclosed varies in its thickness and texture, like that of the aqueous tumour, being sometimes thin and transparent, sometimes thick and firm, and at other times, in part converted into cartilaginous or osseous matter.

The fluid which is secreted by the cyst of the encysted hydatid tumour differs in different cases, being sometimes thin and watery and nearly colourless, and not coagulable by heat; more frequently mucilagi-

nous, and of a yellow or greenish yellow colour, and when the cyst has been much changed in texture, the fluid becomes sometimes quite thick and tenacious, and there is often found on its interior a quantity of greasy secretion, like butter in consistence.

The number and appearance of the hydatids themselves will be found to vary very much. Sometimes there is a single large hydatid almost in contact with a thin cyst, with scarcely any secretion between its coats and the cyst itself. At other times there is a large quantity of thin fluid, in which a few globular hydatids, seldom larger than a small walnut, are seen floating, or a great number of smaller hydatids, with thick mucilage only between them of a dark colour; or again, in other cases, the cyst does not appear to have yielded proportionably to the rapid increase of these singular bodies, and the cavity is filled by a great mass of soft membranes, composed of the remains of hydatids broken down by pressure, and looking like half-dissolved isinglass. The existence of a single large hydatid is not so often observed in the liver, as it is in the breast, and some other parts of the body, and I am inclined to think, that some of the cases which are called large hydatids, are really instances of aqueous encysted tumours, which have been inflamed, and from which a membrane formed in the interior, and having the shape of the cyst, has been detached subsequently*.

* See the case at page 124.

*CASE.*

In the Journal de Medicine, for instance*, is described a case in which, two or three months after a blow, a tumour appeared, followed by general dropsy and ascites, and a cyst was discovered occupying the situation of the right lobe of the liver, filled by five pints of water, one pint of which, at the bottom, was a milky kind of fluid, with the remains of what is called an hydatid, broken down after having filled the cyst, and forming a mass as large as the fist.—This appears to me to have been, not an hydatid, but a membrane, formed in the same manner as in a case at St. George's Hospital, mentioned in the first part of this paper, see p. 124, as having probably taken place in an aqueous encysted tumour, in consequence of inflammation.

It is probable that the state of the hydatids in the liver causes a material difference in the symptoms produced by the tumour, and that the greater the quantity of fluid in proportion to the number of hydatids, (i. e., the more resemblance it bears to the aqueous encysted tumours,) the less urgent will be the symptoms occasioned by it. It is certain, at least, that the hydatid encysted tumour is almost invariably fatal, long before the tumour has grown to anything like the enormous size which the aqueous encysted

* Vol. I. p. 1.

tumour is capable of attaining before it occasions the death of the patient.

It would appear, however, that if the increase of the tumour is not very rapid, it may attain a considerable magnitude, without producing more inconvenience than the sense of weight and pressure, the impediment to respiration, and slight irritation of the liver, which attend the aqueous encysted tumour, and which are indicated by nearly the same symptoms; viz. the difficulty of breathing, the inability to lie in particular positions, the cough, with pain in the right shoulder, pain and tenderness in the right hypochondrium, nausea, and vomiting, and slight jaundice. So that in this comparatively innocent condition, several years may elapse before much inconvenience is experienced, till at last emaciation and general disturbance of the system, sometimes anasarca and ascites, undermine the patient's constitution, and cause his death, before the further consequences of inflammation ensue.

In fact, wherever hydatids are situated, little suffering is experienced, except from the bulk of the tumour, as long as there is no great inflammation, and even then, provided an exit is afforded by the natural passages, or by ulceration, or by surgical operation, little danger need be apprehended, except in the important internal organs; and even in them the occurrence of hydatids is by no means to be regarded as invariably fatal, in which light they are

looked upon by many persons; still less are hydatids to be considered as an evidence of malignant disease, though this also is an opinion which is entertained by many persons*.

Hydatids, indeed, are sometimes found intermingled with malignant diseases, as they are in healthy structures, but, (without entering into the supposed hydatid origin of malignant diseases generally,) it will readily be conceded by any one who has seen many cases of the disease, that hydatids are often found without any of the appearances, and not followed by any of the fatal consequences of malignant diseases; it is but fair, therefore, that the circumstance of their union in the same tumour should be considered as a coincidence only, and not that the one disease is the necessary result of the other.

But if there is *no* exit for the discharge of the hydatids, and especially if there takes place inflammation of the cyst, a *small* tumour becomes dangerous, and frequently fatal.—In the brain, for instance, they will necessarily be fatal at an early period, and even in the orbit, i. e. near the brain, the irritation is sometimes so great as to destroy the patient†.

So also in the liver the peculiar situation of the tumours may render them fatal at an earlier period

* See a case of hydatids in the liver, related by Dr. Blackmore, of Plymouth, in the Medical Gazette, Vol. IX. 464.

† See Guthrie on the Eye, p. 167.

than they would otherwise have been. They are usually met with, like the aqueous encysted tumour, on the anterior and convex part of the organ, or partly in its substance, in which situation a good deal of pressure can be borne with impunity, but if their situation is different to this, the symptoms will be variously modified.

*CASE.*

A young man was in St. George's Hospital, under the care of Dr. Young, who had for some time expectorated bile, while none whatever seemed to enter the intestinal canal, and it was found that the common biliary duct, was completely obstructed by an hydatid just at its entrance into the duodenum. A considerable cavity was also found in the right lobe of the liver, communicating freely with a still larger one in the lung, the whole being full of bile and pus with hydatids of various sizes, all however empty and flaccid except a very few*.

In this case the absence of bile in the evacuations was a symptom different from what is generally observed in hydatid tumours of the liver, but jaundice did not occur; no doubt because the bile escaped by the lungs instead of being accumulated in the system. —In the following case (which occurred in the practice of Dr. Duncan of Edinburgh †) a different modification of the usual symptoms will be seen.

* Introd. to Med. Literature. † Edinb. Med. J. IV. 187.

A man had a tumour in the right hypochondrium with the usual symptoms which arise from an hydatid tumour, pain in the shoulder and liver, dyspnœa, cough, inability to lie or move in particular attitudes, with slight jaundice, but in six months' time the whole body was of a *deep yellow colour*, and the urine was loaded with bile, while the alvine excretions were perfectly white. When in the erect posture, a large circumscribed fluctuating tumour was observed in the hypochondriac and epigastric regions, which subsided immediately on his assuming the horizontal posture, when an uniform tense swelling occupied the whole abdomen. The urine diminished, while this was forming, and his legs and feet were sometimes œdematous.

The hydatid encysted tumour was here found in the porta of the liver, of the size of a large orange, and the vessels passed over and were pressed upon, or rather stretched by the tumour, so as to occasion the peculiar symptoms. From the mechanical obstruction of the vena porta and vena cava arose the ascites and œdema of the legs, and the complete closure of the biliary ducts occasioned the aggravated jaundice and white stools; the liver itself was from the same cause very large and of a mottled green colour, and the water in the abdomen was as dark as the urine.—The disappearance of the circumscribed tumour in this case is a circumstance that I have not observed, and which can only arise I suppose in cases where ascites has been induced. The means of

diagnosis afforded by manual examination is not very satisfactory in the hydatid encysted tumour, unless the proportion of fluid is considerable, though sometimes the sense of fluctuation is very distinct, almost as much so perhaps, as in the case of an aqueous encysted tumour, which I mentioned in the first part of this paper, before the fluid was evacuated *. In general, however, the fluctuation is less evident, so as to render it more difficult to distinguish the tumour from a solid enlargement of the liver, except by the negative signs, which arise from the absence of those other symptoms which ought to characterize a structural change of a decided character; the ascites and deep jaundice for instance which seldom arise from the hydatid tumour. It is clear, however, that as many of the symptoms in either case arise from the same cause, viz. the increased size of the organ, it will often be difficult to form a positive opinion, unless fluctuation is perceived. It has been said that there is a kind of trembling in the hydatid tumour, which differs from the sensation of mere fluid; but it is evident that the number and condition of the hydatids, and the thickness of the cyst, must materially alter the sensation communicated by the touch.

When this point is decided, and the existence of fluid is perceptible, there arises the further question, whether the fluid is formed by a chronic abscess or by hydatids. In the uninflamed state of the hydatid encysted tumour, the question can generally be

* See page 118.

answered, by the difference in the preceding history, and the absence of the usual signs of such inflammation of this organ, as could have produced an abscess, and by the non-occurrence (when the fluctuation becomes apparent) of rigors and perspiration and other symptoms of the formation of matter.

Sometimes when the fluctuation is indistinct, the hydatid tumour may be distinguished from enlargement of the liver by a degree of irregularity in the tumour perceptible through the abdominal parietes, giving to a certain extent the feeling of there being several tumours more or less separate from each other. Two cases were recently in St. George's Hospital at the same time, which were believed to be hydatids of the liver, in one of which it was thought that the circumstance alluded to, was perceived.—Dr. John Hunter* has given a description of a case of this kind, in which an hydatid encysted tumour, that had its basis in the liver, proceeded downwards in the abdomen, so that it was swelled before the man's death with many irregular protuberances. Some hydatid tumours from the same situation had also made their way through the diaphragm and were in contact with the lung.

Cases however will sometimes occur, which would probably baffle the most acute observer from their singular combinations.

* Transactions of the Society for promoting Med. and Chir. Knowledge, Vol. 2.

*CASE.*

A boy received a blow by a fall upon the right side, followed by a tumour some weeks afterwards, by which he was ultimately carried off.—He was tapped two days before he died, and twelve pints of greenish water evacuated, but the upper part of the abdomen was not diminished by the loss. The liver was not much larger than natural, but contained many hydatids, not enclosed in a cyst, but set loose in the substance of the organ. The gall bladder was enormously distended so as to contain eight pounds of bile enclosed in several concentric bags formed by successive layers of lymph, and the duct was large and full of calculi. In addition to this immense tumour of bile, (which is similar to a case mentioned in the first part of the paper,) the spleen, which was healthy in structure, had attached to it an aqueous encysted tumour, containing six pounds of water not coagulable by heat*.

The coincidence of a large aqueous cyst, with an hydatid tumour observed in this case, is not uncommon†.

The origin of the hydatid, as well as of the aqueous encysted tumour, from a blow or injury, is another circumstance, which is very frequently found to have been the case in the human subject, whatever else

* Edinb. Essays and Observations, Vol. 2., p. 352.

† See Transactions of the Society for promoting Med. and Chir. Knowledge, Vol. 2.

may be the cause of its prevailing so extensively in certain seasons in sheep.

Another singular circumstance in the history of hydatid encysted tumours is the appearance of several such tumours in succession in different parts of the body. The most remarkable case of this kind which I have met with, is related by Mr. Hill of Dumfries*.

*CASE.*

A little girl received a hurt on the side by a fall from a horse, which was succeeded by a tumour of the liver containing hydatids, the circumstances of which I shall afterwards have occasion to allude to. This tumour being quite well, there appeared thirteen years afterwards three large tumours on different parts of the abdomen, which seemed to be seated no deeper than the muscles, and were attended with a good deal of fever and pain. At last one of them, situated between the ribs and the spine of the ilium of the left side broke into the intestines, discharging a great number of hydatids with much blood and pus by stool. The others broke outwardly, and for three or four years afterwards, at different periods, tumours appeared on several parts of the abdomen, from all of which hydatids were discharged. Notwithstanding which, however, the patient ultimately recovered.

This fact led Mr. Hill, in a remarkable case of the

* Med. Comment., Vol. 2. p. 303.

kind, to enquire whether some people might not have an hydatid constitution, as others have a scrofulous one. Dr. Hunter endeavoured to explain the same fact in a different way, by supposing that hydatids might escape from tumours in the liver or spleen, in which organs they are so frequent, and drop down to some other part of the abdomen and pelvis, and increase them.

It would appear then, from what I have advanced, that an hydatid encysted tumour will, in general, produce more pain and irritation of the liver and lungs than an aqueous encysted tumour, so that a fluctuating tumour in the liver, wholly without pain, would be more likely to be of the latter than the former kind; the diagnosis however is of less consequence, than between either of these tumours and other diseases of the liver, which may however in most cases be distinguished by careful examination from the two species of encysted tumour.

---

Is an hydatid encysted tumour, in an *uninflamed state*, to be opened, so as to evacuate its contents, in order to prevent further consequences? This is an operation which has sometimes, but not often, been done, and occasionally with success; but it is probable that more severe inflammation would generally take place than from opening an aqueous encysted tumour, the tumour itself being more disposed to inflame, and a larger opening, with probably more

violence, being sometimes necessary than for the evacuation of simple water. I should therefore not be disposed to perform the operation, unless the tumour was of considerable size, and produced much inconvenience or irritation; but rather to wait till it became from these circumstances, or from suppuration, more decidedly necessary. I have not seen the operation, however, performed till after suppuration had been established, but if the symptoms, from pressure, should become urgent, there seems no reason why the operation should not succeed in the same way as when it is done in other parts of the body; allowing for the greater danger of a suppurating cavity connected with the liver.—I say a *suppurating* cavity, for if we may judge by the usual course of hydatid tumours in other parts of the body, we may reasonably expect that although the opening in the parietes may close, yet the cavity itself will not be so likely to become obliterated, as in the aqueous encysted tumour. For instance.

*CASE*

The operation is described as having been performed by M. Recamier in an uninflamed hydatid tumour of the liver, by which, on two successive days, about a pint and a half of serosity, slightly turbid, escaped. The patient, however, still suffered pain: a month afterwards, a fresh puncture was made, and a fluid of the most fœtid odour escaped with a quantity of hydatids; the cavity was subsequently

injected and contracted, and the patient was probably cured *.

Unless, therefore, the tumour was very large, or the health was much disturbed by it, or the local symptoms were severe, the danger would probably not be much increased by waiting till suppuration had been established, since suppuration, probably, would not be prevented by an earlier opening; still, however, the question would require consideration, for there is the same danger of rupture of the cyst, as with the aqueous encysted tumour.

*CASE.*

A young girl had a tumour evidently situated in the liver, but its nature was not clear. One day, in consequence of exertion, she suddenly felt an acute pain, the tumour disappeared, but the lower part of the abdomen became tumefied, and fluctuation was very perceptible. M. Roux made an incision, which gave vent to a transparent straw-coloured fluid, in which a great number of hydatids were floating. The patient died soon afterwards, and on opening the abdomen, many more were found in the cavity of the peritoneum, and in the liver was an enormous cyst which had been ruptured †.

* Med. Gazette, Vol. 2., p. 374.

† Med. Gazette, Vol. 1., p. 771.

Mr. Annesley mentions a case in his practice, in which a similar fatal event took place *.

In the Medical Gazette† is an account of a case in which, in consequence of a fit of passion, a *single* hydatid was disengaged from its bed below the pleura, and the same fatal result ensued.

Undoubtedly, however, when symptoms of suppuration have occurred, or there is such a degree of irritation and suffering as to render suppuration probable, or the patient's life is endangered by pressure only, an operation is called for.—The symptoms of suppuration in the hydatid tumour in the liver will generally present the same difference, from those of a simple abscess in this organ, which I pointed out when speaking of the inflammation and suppuration of the aqueous tumour, so that a careful attention to the previous history of the case, and the local appearances and state of the system at the time, will at least create a strong suspicion of the nature of the disease.

*CASE.*

A woman was admitted into St. George's Hospital under the care of Dr. Hewett, with a tumour apparently attached to the liver, and containing fluid. The patient, however, had such a modification of the usual symptoms of abscess, that Dr. Hewett

* On the Diseases of India. † Vol. 1., p. 325.

believed the tumour contained hydatids. She was kept quiet a short time with the view of procuring adhesion of the suppurating tumour to the abdominal muscles, after which it was punctured with a trocar by the late Mr. Rose. There was discharged through the canula a wash-hand-bason full of broken down hydatids mixed with thick yellowish-green watery pus. The woman, however, experienced only temporary relief, and died shortly afterwards.

I have seen exactly the same kind of fluid in other cases in which suppuration has taken place in hydatid encysted tumours of the liver, and it bears so much resemblance to the fluid evacuated in the two cases of abscess related in the first part of this paper, as to add strength to the supposition of the peculiar matter in those instances having been also derived from a membranous cyst.

Sometimes, however, the tumour itself bursts externally and gives exit to its contents, and the patients now and then have got well. This took place by ulceration in the case I have quoted from Mr. Hill, and spontaneous openings seem to have formed in each of the other hydatid tumours which afterwards appear. Guattani* mentions an instance in which, instead of ulcerating, the skin, which was much attenuated, appears to have literally burst during one of the fits of coughing, and through a small

* De Aneurysm.

opening, like a crow-quill, above 300 hydatids were thrown out to a considerable distance. The opening remained fistulous, discharging a little serosity, and then healed six years afterwards.

Next to the formation of an external opening on the surface of the abdomen, the establishment of a communication between the cyst and the interior of the colon is the most favourable circumstance when suppuration occurs. I am indebted to Mr. Keate for the following case.

*CASE.*

A gentleman had constant pain in the epigastrium and other symptoms of dyspepsia, the cause of which was not apparent for several years, at the expiration of which time his health was so much impaired, that he was exceedingly emaciated, and his life was despaired of. He suddenly felt, after an exertion, an inclination to evacuate the contents of the bowels, and began to discharge an immense quantity of watery fluid with what he termed portions of flesh, but which proved to be hydatids. One vessel after another was thus filled, till it was supposed that near two gallons must have been discharged. After this his health was restored, and he still remains well, —several years having now elapsed.

*CASE.*

An equally fortunate result took place in a lady,

who was attended by Dr. Seymour, whose life seemed in imminent danger from an enlargement in the situation of the liver. Instead of a sudden rupture, however, hydatids were discharged by the bowels during a considerable time, during which the tumour gradually disappeared, the constitutional symptoms subsided, and she has remained free from complaint for several years.

I conclude that the tumour in these two cases ulcerated into the *colon*, from the hydatid being discharged *only* by stool; but the cavity will sometimes communicate with the *duodenum*, in which case an additional symptom occurs, the hydatid being *vomited* as well as got rid of by the bowels, which circumstance is, probably, attended with greater danger than if the tumour merely ulcerates into the lower and less important part of the alimentary canal.

*CASE.*

A case of this kind is related by Dr. Blackmore of Plymouth *, in which after several years suffering from symptoms of impaired energy of the stomach, with one attack of jaundice, a woman was seized with inflammatory symptoms with a return of jaundice, and after a month's illness there occurred violent vomiting of hydatids with purging of the same substance and much prostration of strength; the vomit-

* Medical Gazette, Vol. 9., p. 466.

ing and purging returned several times at intervals of a few days, after which she continued to evacuate some more hydatids with less urgent symptoms, till her death occurred, a month after the cyst had burst. —A large cavity was found connected with the posterior part of the right lobe of the liver; it was lined with lymph, and contained about a pint of bilious ichor, mixed with coagula of blood, but emptied of the hydatids which it previously contained. This cavity had ulcerated into the duodenum by an opening half an inch in diameter, and the small intestines to some extent were vascular and thickened.

There appears also in this case to have been another effect of the irritation of the hydatid encysted tumour upon the structure of the liver, which sometimes, though not very frequently, takes place. In the right lobe of the liver, near the tumour, were some scattered scrofulous abscesses, none of which were larger than a pea; in a similar case, however, in which the hydatids were discharged by vomiting and purging and by the lungs, from a large sac of hydatids connected with the spleen, which had also been opened from the abdomen, a large fœtid abscess occupied both lobes of the liver *.

In the case I have just quoted, the combination of an hydatid encysted tumour of the spleen, with a large abscess in the liver is remarkable, but I will not

* Edinb. Med. and Surg. Journal, Vol. 15., p. 51.

enter into speculations concerning their probable connection with each other. It will be right, however, to observe that when an abscess in the liver coexists with an hydatid tumour, or has been produced by it, an instance of which I have seen, the danger of the case must be infinitely greater, and the diagnosis very much more difficult, since there will now be added to the usual symptoms of such a tumour, those of inflammation of the substance of the liver, and those indications of suppuration which are usually absent or scarcely apparent in the common suppuration of the hydatid cyst.

Instead of ulcerating into the intestinal canal, an hydatid encysted tumour of the liver sometimes makes its way through the diaphragm into the lungs, and the hydatids are discharged by coughing. In the Medical Transactions*, is a case of this kind in which hydatids of various sizes, from that of a pea to that of a pullet's egg, were thus coughed up for several months, the hydatids having sometimes appeared to obstruct the air-vessels, so as to produce the most urgent symptoms of impending suffocation.—In the first part of this paper, I related a case in which an aqueous encysted tumour appeared to have communicated in the same way with the lungs, but it is remarkable that no case of this kind appears to have ulcerated into the intestines, which the hydatid tumour frequently does.

* Vol. II. 486.

It would seem desirable, when the tumour has thus ulcerated into the thorax, to procure an opening, if possible, through the abdomen, in order that a direct opening into the cyst might enable the hydatids to come away more freely; the danger of a large and circuitous exit in which two important organs at once participate, being thus got rid of, and the healing of the sinuses through the lungs facilitated. This result took place in the interesting case of Mr. Hills, which I have already alluded to, the disease having lasted eleven years in the liver, and hydatid tumours being formed in the abdomen thirteen years after that in the liver had been cured.

It is scarcely to be expected, however, if the original tumour is so situated as to make its way through the thorax in preference to an external opening, that an opportunity would often be afforded, however desirable it may be, to make an external, i. e. a depending opening, through the abdominal muscles, in order to heal the more dangerous one through the lungs; nor, indeed, is it to be expected, with so much mischief among so many important organs, that, if the surgeon could do so, the patient would have strength of constitution to subdue the disease, except in some rare cases.

*CASE.*

A woman was under the care of Dr. Billing at the London Hospital, who died under these circum-

stances; an external opening, discharging hydatids, having formed naturally in the abdomen, after she had for some time expectorated hydatids through the lungs. The liver extended almost into the pelvis, an encysted hydatid tumour of the size of the fist being situated at its under part, and being entire; while the gall-bladder formed another tumour stuffed with dead hydatids, and it was from this cavity of the gall-bladder that an opening of the size of the finger led upwards through the diaphragm into the bronchial tubes, in addition to another opening from the same tumour through the abdominal parietes. This circumstance of the formation of an hydatid tumour within the gall-bladder, or within its cavity, instead of in a cyst formed expressly for their reception, I have not heard of in any other case; it is possible, however, that there is some error in the account, and that the hydatids had really made their way out of a cyst in the liver by ulceration into the gall-bladder, as in the case already related, of Dr. Young's. In Dr. Billing's case, however, there was no obstruction to the course of the bile into the duodenum, as there was in the other instance *.

It will be seen from the preceding statement, that, while there is, in some respects, a great similarity in the course of the two kinds of encysted tumours of the liver, they yet differ from each other materially, not only in their origin, but in many

* Med. Gaz., Vol. VII. 542.

points during their whole course, the hydatid encysted tumour being, however, on the whole, more dangerous than the aqueous, though both of them are frequently fatal.

I am not acquainted with any fact which establishes the occurrence of unhealthy and fungous ulceration after an hydatid encysted tumour of the liver, similar to the cases which I related, in which I believed that this process had taken place in the aqueous encysted tumour. It is very possible, however, that they may resemble one another in this respect also, since there is no doubt that unhealthy ulcers, which are sometimes called malignant, are now and then formed, after hydatid tumours in other parts of the body have been opened, especially if there is a small opening into the cyst, which contains the hydatid, or if the cyst has been irritated by passing a seton through it; the appearance, in fact, resembling a similar change, which is sometimes seen in bursal encysted tumours.

---

I shall not occupy the time of the Society in describing what I suppose may be the proper medical treatment of the curious encysted tumours, the course of which I have endeavoured to describe; for I conclude the cure of them must be conducted on those general principles only, which guide us in other diseases, and that in each case, as particular symptoms arise, those must be combated. I will venture

to observe, however, that I think too much care has been directed in many of these cases, to what has been imagined to be inflammation of the liver, when, in reality, it did not exist to the extent supposed. The symptoms throughout the whole course of the complaints, are rather those of pressure and irritation, than of actual inflammation, and the acute pain, which arises from this pressure, is not to be considered as entirely inflammatory; in fact, in many cases the slowness of the pulse sufficiently points out this circumstance; but even when there *is* a quick pulse and hot skin, there is debility, hectic and irritative fever, and not a sthenic diathesis, the tongue remains moist and clean with great rapidity of the circulation, or is covered with brown sordes; and consequently, general depletion and extended mercurial courses, on the supposition of inflammation being present, will only hasten the patient's death.

The progress of the disease may be materially checked however. A case lately occurred in St. George's Hospital, in which the tumour was much lessened, and ascites and other symptoms got rid of for a time by the use of iodine. The disease was ultimately fatal nearly a year after.

It is obvious, however, that as with regard to encysted tumours of the same kind elsewhere, medical treatment can only be directed to the palliation of the symptoms successively produced by the growth of the tumour, or by its own efforts to effect a cure;

and that as the extirpation of the tumour is out of the question, the only effectual cure consists of the surgical means by which the obliteration of the cyst can be effected, i. e. by causing adhesion of the parietes of the cyst by lymph, with or without suppuration, and sometimes also by granulation, or by the destruction of the cyst, all of which methods are employed for the cure or removal of encysted tumours of the same kind in other parts of the body.

Perhaps, therefore, I may be allowed to make a few remarks upon the important question of the mode in which the contents of the cyst should be evacuated, which is a necessary preliminary step, and upon what should be done subsequently ; the cases in which the operation is called for having already been alluded to.

1. With regard to the treatment of the aqueous encysted tumour, I think it quite clear from the successful cases, which I formerly related, that the best method of proceeding when they contain water, or water with a little serum, or lymph, i. e. when they are nearly uninflamed, and the cysts are thin and membranous, is to puncture them with a trocar, taking care that no undue pressure is employed, which might induce too much inflammation, and that moderate pressure is continued during the whole time the fluid continues to flow, as well as when the canula is withdrawn, so that no air can enter the sac. If, therefore, the contraction of the abdominal muscles

and diaphragm does not seem to empty the cyst readily, the use of a cupping-glass over the canula, is a better method of proceeding than using undue force with the hands.—The great object, after the evacuation, is to heal the puncture, which readily takes place, and to keep the sides of the cyst in contact by pressure, which may be done by means of long straps of adhesive plaister round the abdomen, and a moderately tight bandage.

2. If *suppuration* has taken place, I should be inclined to adopt the same means, which I employed in the first case, related in the beginning of the paper. That is to say, to puncture the abscess in the same manner with the trocar, through which a gum catheter may be introduced to give exit to the fluid, that may be subsequently evacuated; after the puncture, pressure may be employed by the side of the catheter, to produce as much diminution of the size of the cyst, as the degree of the inflammation present in the case will allow.

An objection is made by some persons to the employment of a cutting instrument in abscesses of the liver, lest there should not have been such a degree of adhesion between the covering of the abscess and the abdominal parietes, as to prevent the passage of some of the contents of the abscess into the peritoneal cavity; and hence, if there is not obvious adhesion, they employ caustic potash to open the cavity, instead of a surgical instrument. It is clear that if

such a method is right in cases of common abscess, it must be doubly so in the abscess in a cyst, as there is usually much less adhesion than attends suppuration in cellular membrane.—I cannot, however, see the propriety or advantage of adopting this proceeding in opening any tumour containing fluid in the liver or other part of the abdomen. The only case which occurs to my recollection, as having been, perhaps, attended with peritonitis subsequent to the opening of an abscess, is one related by Dr. Graves*.

In this case excruciating pains came on, three hours after a few ounces of pus escaped from an abscess in the liver, and the patient died twenty-seven days afterwards. In this instance, however, caustic *was* applied, and a small cut was made after the separation of the slough, in the deeper parts, which had not been destroyed; and there is further, I think, no proof whatever that the peritonitis was occasioned by the escape of pus into the peritoneum, nor, indeed, of there having been peritonitis at all at that time, for neither pus nor any other kind of fluid was found in the cavity, and the abscess still held upwards of four pints of purulent fluid. The inflammation sometimes consequent upon opening an abscess of this magnitude, is quite sufficient to account for the symptoms resembling peritonitis, without supposing that it arose from escape of pus into

* Dublin Hospital Reports, Vol. VI

the cavity of the peritoneum; and in another case related by the same gentleman, even the opening the gall-bladder by mistake, produced no inflammation, and therefore, I conclude, no effusion into the peritoneum.

I have related several cases in which a simple puncture of an uninflamed, and therefore, probably an unadherent *aqueous* tumour, did perfectly well, and in which a puncture with a lancet answered the purpose; at all events, the use of the trocar which I employed in the first instance in my own case of abscess, is not, I presume, more likely to be attended with effusion into the peritoneum, than the puncture of the bladder is likely to be followed by escape of the urine into the cellular texture, since there is in the latter case the contraction of the bladder to add to the probability of effusion. The catheter may also be withdrawn with impunity after a day or two, when the parts are consolidated by adhesion, as it may be when the bladder is punctured above the pubes.

Another method is recommended in a paper of Dr. Graves's, in order to obviate this, I think, imaginary danger, viz. the making an incision through *part* of the abdominal parietes, leaving the remainder to be opened by ulceration. If fluctuation is evident, however, I cannot conceive there is any necessity for this dilatory proceeding, but in doubtful cases, an instance is related, which seems to shew

that it may serve the purpose of directing, in some measure, the course of the ulceration.

3. I conceive the same plan is best, if it is determined, to open an *hydatid* encysted tumour, whether in a simple or in an inflamed state, unless the previous confinement of the contents of the cyst had so much disturbed the health, or the contents were so decidedly purulent, as to make a larger opening at once necessary. It might be thought, perhaps, that with these bodies, the orifice made by the trocar would not be sufficient to give exit to them, but their figure becomes so altered, or they are so readily broken down and burst, that they will pass through a very small opening. I have mentioned a case, in which, when spontaneously ruptured, and nearly uninflamed, more than 300 hydatids were propelled with considerable force, through an opening which is described as having been not larger than a crow-quill; and when in the state of abscess, in Dr. Hewett's case, a whole wash-hand-bason of broken down hydatids and pus came away through the canula very readily. Cases in which a complete incision with the knife has been made at once, do not seem, on the whole, to have been so successful, as when a smaller opening has been employed, which can be enlarged subsequently, if it is found insufficient, with less risk of opening the peritoneal cavity, than if the same sized opening be made at once.

If a large opening be made at once and kept open,

there is necessarily a suppurating cavity, which, in so important an organ as the liver, is, of course, not a little dangerous, while, if there is no inflammation, there is sometimes a chance, though a small one, of procuring adhesion after the puncture, in the same way as it generally occurs, if an aqueous encysted tumour is punctured. If, therefore, the character of the fluid mixed with the hydatids is not purulent, little risk is run, I imagine, by attempting to procure this obliteration by adhesion; and if this fails, the puncture can readily be reopened.

4. If the fluid, however, be at all purulent, the propriety of attempting wholly to close the orifice is much more doubtful, and it will probably be less hazardous to leave it open, lest dangerous symptoms should be produced by confinement of matter become foul by the opening. Even now, however, when in part purulent, I am inclined to think the orifice should be at first small, as I have before recommended, for the following reason.

It must be recollected that the cyst of hydatid, like that of aqueous encysted tumours partakes more or less of the nature of a serous membrane; it is, like the natural serous membrane, indisposed to secrete pus, when inflamed, and if any purulent secretion is found, it is mixed with lymph and with much of the aqueous and mucilaginous fluids that are secreted in the uninflamed condition. The pus is still formed by the vessels of the cyst, not by gra-

nulations as in the cyst of an abscess; the cavity, therefore, does not fill up by granulation at all readily, but the sides still remain more or less disposed to adhere by lymph if they are kept in contact by such pressure as can safely be employed. Provided, therefore, the centre be open, and the symptoms carefully watched, it is, I conceive, right to diminish the size of the cavity as much as possible by adhesion, and not at once, to encourage suppuration throughout the whole cyst by allowing a free access of air by means of a large opening.

To shew to what extent adhesion may be procured in an hydatid encysted tumour, I may refer to a case which occurred in the practice of the father of a former pupil of mine, Mr. Attenburrow, of Nottingham, whose character as a skilful surgeon was not belied by his diagnosis of the case.—A girl about fourteen, fell down stairs, and a month afterwards a swelling formed in the thigh, which increased without pain or disturbance of the health, till in ten months' time the length of the tumour from the pubes downwards was twelve inches, its breadth nineteen, and its circumference at the base thirty-three inches. A large trocar was passed into the tumour, and a quantity of dark coloured matter evacuated, the stream being occasionally interrupted by large portions of broken down hydatids. Strong pressure was applied, and several times the bursting of an hydatid was felt, which was invariably succeeded by a stream of clear serum, which was again followed by

hydatid cysts and purulent fluid. Seven pints were thus evacuated, after which pressure was applied. About three weeks afterwards a pint and a half of purulent fluid was let out, which was attended with some fever. Pressure was again applied, and there seemed to be no further return of the swelling*.

Had so large a cavity been freely opened, instead of attempting to procure adhesion, under such apparently unlikely circumstances, the result of the case would probably have been very different.

5. There is only one other circumstance which I will allude to, with regard to the treatment of these cases, which is, that when an hydatid encysted tumour has been opened spontaneously, or by art, much good appears in many cases to have been derived, when the discharge has put on an unhealthy character, from washing out the cavity with warm water, or by injecting into it some gently stimulating applications, some short time after the first opening had been made. This practice seems to induce a more healthy secretion in the cyst, and to facilitate the adhesion of the sides by lymph, and is not followed by inflammation to a hurtful extent, if proper care be taken.

* Med. Gazette, Vol. VI.

# CASE

OF

# AQUEOUS ENCYSTED TUMOUR

OF THE

# KIDNEY,

WITH A SUPERNUMERARY GLAND ATTACHED TO IT.

BY CÆSAR HAWKINS, ESQ.

SURGEON TO ST. GEORGE'S HOSPITAL, AND LECTURER ON SURGERY.

READ MAY 28TH, 1833.

In a paper which I presented to the notice of the Society, in the early part of this season, I gave an account of some cases of tumours connected with the liver, which I called *aqueous encysted tumours* of that organ; and among other peculiarities of this disease, I mentioned the nature of the fluid which they contain, which is water only without any albumen or other animal matter, except a little of what Dr. Marcet has called *muco-extractive matter*. In speaking of the impropriety of the term *serous cyst*, as applied to these tumours, I observed that I had punctured a tumour apparently connected with the kidney, which I believed to be an instance of an

*aqueous encysted tumour* of that organ, because the fluid which was evacuated was of the same kind as that which these tumours usually contain. An opportunity has since been afforded of verifying this observation by the death of the patient; and as the growth of the aqueous encysted tumour of the kidney to such a size as to constitute a disease, perceptible during life, is, as far as I know, still more rare than the same disease in the liver, the relation of this case may, perhaps, not be uninteresting to the Society, as a sequel to my former paper, the contents of which appeared to be new to many of the members.

John Connell, æt. 6, was admitted October 18th, 1832, into St. George's Hospital under the care of Dr. Seymour, with enlargement of the abdomen, and shortly afterwards his mother having given an obscure account of his having received some injury, I was desired to see him.

It appeared from the mother's account, and from a letter written by the medical man who had first seen him after the injury, that three weeks before his admission he had been struck down, and perhaps run over by a carriage, which produced great pain in the abdomen, with considerable swelling, in consequence, as this gentleman supposed, of inflammation of the colon;—that the swelling had almost all subsided four or five days afterwards, when the bowels had, with great difficulty, been acted upon, and that ten

days after the injury a swelling again slowly appeared without much pain, but which was now confined to the right side of the abdomen instead of having been general; and that having been previously a stout healthy child, he had since that time become emaciated, and had suffered from feverishness, with occasional pain in the tumour.

The whole abdomen seemed large and distended, but especially the right side, which was tense and firm, and occupied by a tumour which extended from the right hypochondrium to the right iliac region, and from the back of the loins to a little beyond the linea alba, the ribs and ensiform cartilage being considerably pushed upwards by the bulk of the swelling. The intestines were pushed across to the left side, or covered by the tumour, for no sound of air could be detected below the swelling, though it seemed as if deep pressure enabled the edge of the liver to be felt by the finger. The tumour evidently contained fluid, fluctuation being clearly felt by the fungus being placed laterally, but more obscurely, from above downwards, and it seemed as if the fluid was divided into two portions by a line running obliquely across the abdomen, just below the umbilicus.

The tumour did not seem to be very painful, but the child complained of pain occasionally, and pressure gave some pain at the lower part of the abdomen.

The child did not suffer from much fever, but the

pulse was rather quick and feeble, and the tongue white. The bowels were constipated, requiring the frequent use of castor oil, and the evacuations were light coloured. The urine was passed freely, but was rather scanty in quantity, and was healthy in quality.

What then was the nature of this tumour? Was it an abscess in the iliac fossa and among the abdominal muscles, produced by the blow? This did not appear probable to me from the absence of perspiration and of rigors, the slight pain and tenderness, and the symptoms of *irritation*, rather than of *fever*, which were present in the case.

Was it a deposition of serum and lymph, or of pus in the peritoneum, in consequence of the inflammation supposed by his first medical attendant to have taken place in the colon? This is not indeed a very common circumstance, but yet on the whole, after hearing the opinions of our colleagues and of many other gentlemen who saw the case, it seemed to Dr. Seymour and myself to be the most probable cause of the swelling. What seemed to make this opinion likely was the abrupt line, which was felt where the tumour and the intestines on the left side joined, and the crackling sensation which was there felt, as if by the deposit of lymph at the margin of the cavity.

The child was directed to take castor oil every other morning, to take one grain of calomel three

times in the day, and to have ten leeches applied to the swelling, with fomentations.

Nov. 7th, about three weeks after his admission, the irritation of the system had much subsided, and all pain and tenderness had ceased, and the boundary line of the cavity seemed to be nearer to the right side, as if the fluid had diminished, and it seemed now to be in one cavity, the apparent division being no longer perceptible. A better diet was allowed, but the calomel was continued, with the castor oil.

13th.—Some pain being felt, eight leeches were repeated, and the calomel, with four grains of Dover's powder, was given twice a day, instead of three times.

22d.—Leeches repeated in consequence of pain, and beef tea given instead of meat.

By this time the swelling had much diminished, so that the boundary was felt about half an inch to the right of the umbilicus, instead of going beyond it, and the tension was lessened. The health had by this time much improved, the bowels were more regular, the appetite good, and the child was cheerful and free from pain or anxiety.

24th.—The calomel was omitted, and the abdomen was ordered to be rubbed with an ointment

composed of equal parts of mercurial and iodine ointments.

Very soon after this a marked change for the worse took place, fever returned Nov. 28th, with sickness, for which effervescing saline mixture was directed.

December 1. Great pain and tenderness of the whole abdomen came on, as if there was general peritonitis, and the fluid in the tumour rapidly increased again, and it became very tense and painful. The child lay with his legs drawn up, and was unable to bear them to be laid down, and the countenance assumed an expression of great suffering, with slight inflammatory fever.

Twelve leeches were applied in the morning, and again in the evening, and in the middle of the day I made a small puncture into the tumour on the right side through the abdominal muscles, and let out 18 oz. of clear fluid nearly transparent, which evaporated almost entirely, leaving a small residuum of muco-extractive matter, without any trace of albumen. The evacuation of this fluid afforded very great relief, but our views of the nature of the disease were materially changed.

It seemed evident upon consideration of the nature of the fluid, that it had not been formed by the peritoneum, but was contained *in a cyst*, for the reasons

mentioned in my former paper, when I alluded to this case.

Was it then an *aqueous encysted tumour* of the liver, such as I was then speaking of?—Or was it an aqueous encysted tumour of the kidney?—Or was the fluid contained in a cyst connected with fungus hæmatodes of the kidney?

This latter opinion became in a short time the general one, for it seemed as if after the evacuation of the fluid, a solid tumour could be felt in the loins, which indeed was subsequently found to be the right kidney though not enlarged, as it appeared to be from its having become more moveable, and the countenance soon put on that sallow and emaciated appearance, which so often attends malignant disease; and besides, fungus hæmatodes of the kidney is more common than the aqueous encysted tumour of the kidney or liver, enlarged to such a size as to produce the symptoms observed in this case.—The urine was indeed healthy for the most part in its quality, but so it often is in fungus hæmatodes of the kidney, till the tumour softens, and discharges blood, or pus, or the nature of the secreted fluid is otherwise altered. We had observed, however, an unusual scarcity of urine at the first inspection of the case, which was not noticed during the temporary amendment of the patient, but was now again remarked; and several times before the child's death I observed that the urine contained a considerable quantity of sulphuretted

hydrogen, which tarnished silver, and was evident to the smell, though the urine was clear, and sufficiently acid, to be considered in other respects healthy.

Adopting this view of the case, as the most probable, the fluid was not again evacuated, which I now much regret, as it might have afforded some relief to the boy, though it is not likely to have saved his life.

The amendment, however, occasioned by the evacuation was so temporary, that it did not seem to be again called for, especially after the supposed existence of solid tumour. The pain soon returned, the child rapidly fell away, in a week the swelling was as large as before the operation, extreme restlessness took place, with starting and screaming in his sleep; convulsions were once observed, and the child could not bear to be touched or looked at. The tumour went on increasing to a great degree, and the child lingered in a state of great suffering till Dec. 25th, when he died.

On examination after death the tumour was found to consist of a single cyst, containing about five pints of fluid, the greater part of which was clear and transparent, like that which had been previously evacuated, and, like it, did not coagulate at all on the application of heat; the remainder contained a good deal of the white semi-purulent matter which is usually seen in serous membranes, or in cysts, which have been inflamed. The cyst was tolerably firm in

front, but towards the back and inner part it was so thin and soft, as to tear with facility, and scarcely to allow of being dissected out. The cyst had protruded slightly below Poupart's ligament through the femoral ring, and reached upwards to the liver, raising the ribs, and pushing the liver towards the left side and into the chest; the other viscera were pushed to the left side of the abdomen, and the cyst was on that side covered by the peritoneum belonging to the colon;—in front it was adherent to the inner surface of the abdominal muscles, and behind to the iliacus internus and psoas muscles, and to the side of the lumbar vertebræ, where it was thinnest. It thus occupied the whole of the right half of the abdomen and iliac fossa, and encroached a little upon the pelvis, being external to the peritoneum.

On the inside and towards the fore part of the cyst was seen the ureter, which was traced upwards between the layers of which the cyst was contained, towards the right kidney, which was situated at the back part of the cyst towards its upper and inner part. The ureter was tortuous and elongated, so as to make it difficult to trace its course, but it entered the kidney in the usual way, and was of its common size, and had no communication with the cyst; but there were two small orifices in the pelvis of the kidney, which seemed to have been the result of ulceration, and near these orifices the ureter and pelvis of the kidney were of a black colour, and tarnished the probe, as sulphuretted hydrogen does. The kidney was of the

usual size, and healthy, and its anterior surface formed as it were a part of the cyst, as the cyst was intimately connected with the margins of the organ, and could not be traced over its surface; and the surface of the kidney, which was thus seen in the interior of the cyst, was flattened, and rough, and the covering thicker than usual. About five inches from the kidney towards the inner part of the cyst, was a small body, about the size of a walnut, which projected into the cyst, and was soft and lacerable, and covered by a very thin coat; this body proved on examination to be a *third kidney*, consisting of a single lobe, with the cortical and tubular part perfect, and having a single mammillary process, and calyx, but no excretory duct could be traced.

All the other viscera were healthy.

Such then was the appearance of this curious cyst, and the question presents itself, what was its first formation?

1st. It was conjectured that it might be a cyst formed by laceration of the kidney in consequence of the blow, the smaller body being the lacerated portion separated from the rest of the organ by the growth of a cavity containing urine.

The small kidney was, however, too perfect, and the original one too smooth and uniform in its shape and size, and in its external and internal structure to allow

of this supposition. The small body was in fact a third kidney, such as is sometimes found, and perhaps secreted urine, which was carried off by a duct which escaped our observation, or was destroyed by the growth of the cyst. It exactly corresponded with the general form of these supernumerary kidneys.—Geoffroy de St. Hilaire says, "Les reins surnumeraires n' etaient evidenment que *des lobules* des reins normaux, restes distinct de la masses de ces organes. En un mot il y avait scission, et non multiplication des reins."

2ndly. The nature of the fluid served also to shew that the cyst could not have been formed by laceration of the right kidney by accident, nor yet by the gradual accumulation of urine secreted by the separate lobule in consequence of its having no excretory duct. The fluid was not urinous at all, either when drawn off during life or collected in still larger quantity before death, and (with the addition of the result of inflammatory action) its nature was the same after death, as when I let it out during life. It had indeed after death a strong animal smell, which induced some gentlemen to suppose that it at least contained some urine, but the urine in the bladder was very different in its nature, and was healthy and clear, and free from any admixture with the purulent secretion of the cyst; the fluid in the cyst was also alkaline, and ammonial; the urine was acid.

To be certain with regard to the nature of the

fluid, I requested Dr. Prout to examine some of it, comparing it with the urine of the bladder, and he was kind enough to send me the following result of his analysis.

DEAR SIR,

The fluid from the cyst is *serous*, and after a careful examination, I have not succeeded in detecting anything urinary in it; at least, if it contains urine, the quantity, I am satisfied, must be very minute.

Yours truly,
W. PROUT.

Sackville Street, 30 Dec.

This analysis will serve to show not only that the contents of the cyst were not urinary in their origin, but also that the small communication before alluded to between the pelvis of the kidney and the cyst, had not allowed any urine to pass into the cyst, but that the orifice was more probably the result of ulceration induced by the pressure of the cyst, in order to allow of the escape of some of the fluid into the nearest tube.

3dly. I am induced, therefore, on the whole, to have little doubt that the cyst was an *aqueous encysted tumour* of the kidney, similar to those which I have described as enlarging so greatly in the liver. It is curious, indeed, that while I was enabled to mention to the Society a great number of cases of this kind in the liver, besides those which I had myself seen, I have

not met with one satisfactory case on record of the same disease in the kidney, although almost every one must have seen these cysts in this organ, when of small size, and unsuspected during life, from their having caused no symptoms of disease. Even Morgagni has only, I believe, an account of one such cyst, and that contained a few ounces of fluid only, and had not been detected during the life of the patient.—There are, indeed, many accounts of what are called curious cases of cysts connected with the kidney, but some of these were instances of mere distension of the coats of the kidney, and of the excretory vessels, with which every one is familiar, and some of them are actually ovarian tumours, erroneously supposed to have originated in the kidney*.

But although I am acquainted with no history like the one I have related, these cysts must not unfrequently enlarge to a considerable size. In the collection, for instance, of the College of Surgeons, are several tumours of the kind connected with the kidney, which have precisely the same appearance, as in that which I have detailed to the Society. They are connected in the same way with the convex part of the organ, which is flattened, and its coats condensed in a similar manner. They are, for the most part small, from the size of a pea or nut, to a size sufficient to hold several ounces, and one appears to have been large enough to have held two

* See Miscell. Acad. Nat. Curios. Dec. 1. Ann. 1. 1670. p. 133. Novi Comment. Gotting. T. 8. p. 10. Bulletins de l'Ecole de Medicine Ann. 1811. p. 185, &c. &c.

pints, and it seems to have been originally formed of two cysts, by an imperfect division being still seen in the interior of the cyst. Unfortunately, however, no account of the case has been preserved.

These *aqueous encysted tumours* of the kidney are called in the Catalogue of the Museum of the College by the same name which was given by Mr. Hunter to the similar cyst in the liver, viz. *spurious hydatids.* I need not repeat my objection to the term, as I dare say many of my hearers are acquainted with the more common characters of *hydatid tumours* of the kidney, these animals being not unfrequently discharged with the urine in vast numbers, and for a great length of time, and the disease being sometimes entirely cured, so that although I have seen the disease occasionally during the life-time of the patient, I do not recollect having been present at one dissection of the disease.

It will be observed also from the preceding history how exactly the *aqueous encysted tumour* of the kidney corresponds with the same tumour in the liver;—it has the same origin from a blow;—there is a similar rapid growth in the cyst;—the fluid has precisely the same appearance, and chemical character;—and finally there is the same acute suffering from distension and pressure, before the patient's death, and the same termination in inflammation, and inflammatory secretions, which were before pointed out to the notice of the Society in the Aqueous Encysted Tumours of the Liver.

AN ACCOUNT OF TWO CASES

OF

# DEEP SEATED NÆVUS,

OR VASCULAR TUMOUR OF LARGE SIZE,

TREATED BY THE INTRODUCTION OF SETONS.

BY GEORGE MACILWAIN,

SURGEON TO THE FINSBURY DISPENSARY, TO THE ST. ANN'S SOCIETY, ETC.

READ FEBRUARY 12TH, 1833.

The following examples of deep seated nævi, it is hoped, may not prove uninteresting to the Society.

About a year after I had adopted the practice here recommended, Mr. Fawdington of Manchester published some cases of the successful employment of setons in deep seated nævi, but the date of his first case shews that he had been adopting the practice, before it had occurred to me to attempt the removal of these formidable diseases in a similar manner. In a conversation with Mr. Lawrence not very long ago, he mentioned his having tried setons for the removal of nævi, but as our meeting was accidental and interrupted, I did not learn to what description of the disease he referred. The history of the second case, however, induces me to conclude that he did not refer to that form of disease herein-

after described, or that if he did, the results of his experiment were not encouraging.

I cannot help thinking the following cases important, because, 1stly, their nature was as well marked as that of any tumour can be which has not been demonstrated by dissection. 2ndly, because no doubt existed, as to their character, in the mind of either of the very competent judges, to whose examination they were submitted. 3rdly, because their history incontestably proves that the dispersion of the tumours was the effect of the setons unaided by any other measure, and lastly, because in both instances, the age of the patient, the size, situation, and extent of connection of the disease alike forbad any attempt at extirpation.

It was my intention to have offered some remarks on nævi generally, by which I had hoped to have rendered the cases more acceptable to the Society, but as various circumstances prevent me from indulging this wish in a satisfactory manner at present, I am unwilling longer to withhold facts, which may be more useful in proportion as they become more extensively known.

In August 1829, I was requested, in consultation with Mr. Wilson, of Northampton Square, to visit a child three months old, who had a small tumour on the left side of the neck, a little below the angle of the jaw, and of which I obtained the following ac-

count. About three weeks after birth a small tumour was observed about the size of a pea, which Mr. Wilson believed to be glandular, and to which he ordered evaporating poultices accompanied by some attentions to the general health. The tumour, however, had gradually acquired its present bulk, the parents were anxious that it should be opened, and my opinion was requested upon the propriety of so doing. The tumour was now about the size of a small walnut, perhaps scarcely so large, it was soft, elastic, and had a smooth feel, was easily compressible, still presenting very much the characters of a gland in a state of chronic suppuration, the skin covering it appearing quite natural.

The above description conveys, at least, the first impression it created; as I had, however, seen some anomalous tumours in the necks of children, I proceeded to examine it more particularly, and remarked that the softness was not exactly that conveyed by suppuration; it wanted something which I scarcely know how to describe, shall I say the central fluidity of suppuration? The tumour seemed universally soft and elastic, it was also so compressible that it appeared as if pressure, for the moment, reduced its volume; on looking very closely at its surface, just at the most projecting point, exceedingly minute vascular ramifications were discoverable. It was neither painful nor tender.

There are various modifications in the sensations

imparted by tumours to the hand of the surgeon, which materially influence his opinion, but which it is often difficult and sometimes impossible to describe. The foregoing description, however, may partially convey the characters which induced me to decline puncturing the tumour, although I was still well enough inclined to believe that it *might* be a suppurating gland. I merely recommended a linseed-meal poultice, with such attentions to the general health, (at this time perfect,) as from time to time Mr. Wilson might judge necessary.

After an interval of a fortnight I again saw the tumour, its characters remained unchanged, the poultices were discontinued, and a soap plaster only applied. In about six weeks the plaster was discontinued, the tumour still unaltered. No pulsation had hitherto been perceptible.

About a week, however, subsequent to this period, Mr. Wilson thought that he had discovered a pulsation in the swelling, and I was requested to see the patient again. I found that the tumour had increased in size, that the pulsation, though faint, was unequivocal, that the vascular ramifications before noticed had become more perceptible, and that when the child cried an impulse was distinctly conveyed to the tumour. These circumstances confirmed my growing suspicion that it was a deep seated nævus, or vascular tumour. I accordingly directed the application of cold, by means of the

common freezing mixture and subsequently by ice. Under the latter application there was at first a very sensible diminution in the bulk of the tumour, but afterwards the ice appeared to provoke a reaction followed by an augmentation of its volume.

As the tumour had now rapidly acquired a considerable size, and appeared still to be increasing, it became a question what further was to be done. Was its removal by operation practicable? Was it justifiable to tie the common carotid artery? or if these questions were answered in the negative, as in my opinion they must be, was there any other plan by which the removal of the disease might be more slowly and safely attempted. I requested a consultation on these points and met Mr. Stanley and Mr. Wilson to consider them. These gentlemen coinciding with me as to the hopeless nature of either of the operations which I have mentioned, we agreed to endeavour to excite inflammation in the tumour, and began by passing red hot needles through its substance. These measures were repeated thrice at intervals of about a week; each puncture was followed by a single jet of arterial blood, and produced considerable constitutional disturbance which continued for about twenty-four hours, but they were followed by no diminution of the tumour, which, on the contrary, increased slowly but progressively. It was now determined that a seton should be passed through it, the following being the extent occupied by the disease.—It reached above as high as the

lobulus of the ear, which indeed with the contiguous portion of the auricle, it had considerably elevated from its usual situation; it extended below to within a half an inch of the clavicle, forwards it occupied the cheek as far as the anterior edge of the masseter muscle, and posteriorly it reached to within about half an inch of the mastoid process.

The accompanying model represents pretty accurately the dimensions of the tumour at this period, except, that in consequence of its yielding to pressure, that exerted by the plaster of Paris occasioned a trifling diminution in its volume, the tumour being really more projecting than the model represents it. A considerable plexus of vessels had become developed on its surface, and towards the ear especially there was deepish redness of surface, shewing that the tumour was exceedingly vascular.

On the 5th of December, 1829, I passed a long circular needle, armed with two double threads of the silk commonly used for setons through the substance of the tumour from one side of its circumference at its base to the opposite; having adjusted the silk, so that it should as nearly as I could contrive it, fully occupy the space described by the transit of the needle. The structure seemed to yield before the instrument, but still to resist its puncture, so that I had the greatest possible difficulty in carrying its point through the mass, the needle bending so as to endanger its breaking, and yet by the sensation it

imparted, it appeared to be pressing against a soft elastic matter. One jet of arterial blood followed the seton, just as when the simple punctures were employed. The seton however produced considerable constitutional disturbance which did not subside for several days: the tumour increased very rapidly, a memorandum made by the father, describes it thus; "it increased to such a size that when the child sat upright it touched her shoulder; those small vessels which were ramifying at the centre of the tumour were now of such frightful size, that when the child cried violently they projected from the surface sufficiently to cast a shadow," &c.

On the 30th of December I passed the second seton, which, like the former, produced considerable disturbance, and like it was carried through the tumour with great difficulty. The tumour at this time had acquired its greatest magnitude, and I regret that a second caste was not taken. The father, who watched the child with great solicitude, thinks that it is quite safe to represent it as large again as the accompanying model *, taken before the

* For the information of those members who had not an opportunity of seeing the model exhibited to the Society, I here subjoin its dimension. Its diameter from above the lobulus of the ear downwards was rather more than four inches; from its anterior edge towards the mastoid process rather less than four inches; its circumference at the base about eight inches and a half. The tumour when at its greatest size, as mentioned in the text, being of course double these dimensions.

setons were inserted. No discharge, except a very small quantity of serous-like exudation had taken place hitherto, nor was any thing more observable until about a fortnight after the insertion of the second seton. At the time a drop or two of puriform matter was observed to ooze from the first seton, which in a day or two was followed by well formed pus. For a considerable period the setons discharged matter alternately, and subsequently both together. Sometimes an interval occurred without any discharge taking place from either, when the child became restless and uneasy, which condition, however, was invariably relieved by the renewal of the discharge. That which remains may be stated in a few words. The tumour gradually but very slowly diminished in bulk until May, 1832, when the setons were both thrown off in one night, there remaining nothing more than a slight discolouration of the skin, and the cicatrices of the setons. In conclusion I may observe that Sir Astley Cooper and several other gentlemen saw the case during its progress, but no one had any doubt as to the nature of the disease.

### *CASE II.*

In the winter of 1830-31, Mr. Jacobs requested my opinion on a tumour in the neck of a child (of the same age as the last case) which had been brought to him by its mother, and from whom he received the following history of the disease.

A month after birth she perceived a small swelling about the size of a horse-bean, situated on the cheek immediately in front of the ear; the colour of its surface was natural. The medical gentleman to whom she shewed it treated it by poultices and lotions. The tumour, however, continued to enlarge until it had acquired the size of a duck's egg, and a number of small veins were seen on the surface, giving it a blueish appearance. These circumstances induced her to consult Mr. Jacobs, who shortly after desired her to bring the child to me. On examining carefully the tumour I had no doubt that it was a deep seated nævus. Its situation, size, and character were so very similar to those of the tumour the history of which I have already related, that I shall mention only those particulars in which some slight difference was observable.

Its circumference was larger than the first-mentioned case, its projection not quite so considerable, its situation in every respect alike, except that its anterior boundary came farther forward on the cheek; it had a somewhat more slippery feel, and though very compressible, did not yield quite so easily. In other respects I could discern no difference in the two diseases. I accordingly told Mr. Jacobs that I considered the case a deep seated nævus, and had no hesitation in suggesting the application of the seton; but as the other case was then under treatment, and as the parents had no objection, I recommended Mr.

Jacobs to visit that patient and judge for himself; the result was that shortly after he passed two setons through the tumour in question. A few weeks subsequently Mr. Jacobs left London to reside in the country, when he consigned the case to my care, and the child was admitted into the Finsbury Dispensary. I do not recollect that at this period the tumour had undergone any alteration.

I was now obliged by illness to leave town, the mother discontinued her attendance, and I saw no more of her for more than a twelvemonth, when in the early part of October last she again brought the child to Ely Place. She told me that the setons remained in about four months, at the expiration of which period she took the child to St. Bartholomew's Hospital, and it became a patient of Mr. Lawrence's, one of whose dressers withdrew the setons.

The first thing which struck me on the present occasion was, that the volume of the tumour was diminished by one half since I last saw it. The woman was very positive that it had not become less since the extraction of the setons, and as I could not make out that these had been withdrawn by any express order from Mr. Lawrence, I immediately recommended her to have them replaced. To this she after some little hesitation consented, and accordingly, early in November, I passed one seton across the

tumour, precisely as in the former case, intending to insert another when the excitement of the first should have subsided.

The jet of blood, and the great resistance to the needle, were precisely similar to those occurrences in the first mentioned case. The excitement occasioned by this seton was much less considerable, and suppuration occurred after a shorter period. The diminution also of the tumour is much more rapid, and indeed promises so speedy a dispersion of the disease, (there being at the present time only a very small portion of it remaining,) that I have not thought it necessary to pass a second seton.

On the present occasion I will only add, that the needle employed was about the size of that which is commonly used for working in worsted. In future I shall employ one a size or two larger, since there will be no danger of its breaking, whilst I have little doubt that so far, the size of the instrument may be increased without danger of hæmorrhage *. I have little doubt too, that further experience will justify other modifications in the seton which may induce a more rapid dispersion of the diseases in question; but in

* I would advise the surgeon not to neglect the plan of adjusting the quantity of the silk so that it should fully occupy the track made by the needle. In the present state of our knowledge on this subject, it would be at least imprudent to throw aside this precaution.

the conduct of a new treatment for so formidable a disease, prudence requires that we should be cautious, for in the practice of our uncertain science, our most carefully formed anticipations are not always realized.

"Nec semper feriet, quodcunque minabitur arcus."

# ADDITIONAL FACTS

RESPECTING

# GLANDERS

## IN THE HUMAN SUBJECT.

BY JOHN ELLIOTSON, M.D. F.R.S.,
PRESIDENT OF THE SOCIETY.

READ 12TH MARCH, 1833.

It is now nearly three years since the Society did me the honour of publishing, in the sixteenth volume of its Transactions, a paper in which I proved that the glanders of the horse is communicable to the human race, and described three cases, two of which occurred in men whom I saw and one in a person well known to me, together with three which I found in recent English works, and three in Rust's Magazin für die gesammte Heilkunde.

The proofs adduced were the perfect similarity and uniformity of the symptoms and course of all the acute cases of the affection, and their complete distinctness from those of any other disease, as well as the perfect correspondence of the appearances on dis-

section, in the only case which was properly examined, with those in the horse:—the fact of each of the nine patients having been in communication with a glandered horse, though the occupations of some of them had rendered this extremely improbable;—and the fact of glanders having been produced in asses by the inoculation of matter taken from two of them. At that time it was not generally known, indeed by many it was disbelieved, that the disease could affect the human subject. In no writer upon contagious or cutaneous diseases was it mentioned. The Dictionnaire de Médecine et Chirurgie Vétérinaires declares glanders to be peculiar to monodactylous animals. Sir Gilbert Blane in his Select Dissertations, published in 1822, asserts that "the only examples hitherto ascertained" of contagions communicable from one species to another "are the hydrophobia and cow pox". Mr. Travers, in whose work on Constitutional Irritation, published in 1828, I found two cases of the disease caught by men from the glandered horse, and whose morbid secretions, when inoculated into asses, again produced the disease in them, considers that the disease of the intermediate beings—the men,—was not glanders. Mr. Colman, who inoculated one of the asses, declares, that, "as far as his experience goes, the nostrils of the human subject are not susceptible of glandered ulceration or inflammation:" and indeed, when I related my cases to Mr. Colman at one of the meetings in the College of Physicians, he appeared to doubt their nature, as he said the symptoms were not those observed in the horse;

but I replied, that, in the asses, inoculated from the human being, the symptoms were precisely the same, —discharge from the nose, swellings, pustules, sloughing. Mr. Youatt, although *now*, in the *last* number of the Veterinarian, after seeing the present case, he says " the possibility of the communication of glanders from the quadruped to the human being has *long* been suspected, or rather painfully *known* by the veterinarian," stated in a lecture, delivered in the University of London some time *after* the appearance of my paper, and published by him *only last year* in the Lancet, that, " notwithstanding a loathsome and fatal disease results (in the human being) from inoculation with the matter of glanders," he doubted " that it bears the true character of glanders," and *he did not think it worth while to mention a single fact detailed in my paper, or even allude to it at all.*

Under these circumstances, I presume it will be acceptable to the Society if I relate another case of the disease, in which not only the symptoms and course agreed with those of all the rest, but the connection with a glandered horse was proved, and, a complete examination having been allowed after death, the appearances disclosed were the same as those observed in the horse.

*CASE.*

William Johnson, aged 23, was admitted on the 31st of January, into St. Thomas's Hospital, under Dr. Williams. He complained of tightness across

the chest, pain in the right side and loins, and great lassitude. The tongue was somewhat coated with yellowish mucus. There were sweating and thirst, and the pulse was 90.

On the 2d of February, there was pain of the head and loins, and frequent watery and offensive stools. He became a little incoherent in his answers, rigors began, and the tongue was tremulous. He continued to be occasionally delirious, and on the 4th, in addition to the other symptoms, there was pain in the forehead and vertex, in the right hypochondrium, and in the extremities. On the 10th, he had been furiously delirious, and required strapping down; he complained of gnawing pains in all his limbs, of great difficulty in moving the left arm, for the joints were very painful, and the knuckle of the fore finger was tumefied and red; the discharge from the skin was profuse, sour and offensive; leeches were applied to the temples. On the 11th, the swelling on the hand had increased, there was also a red swelling on the right outer ankle; the tongue was covered with a brown dry fur, and there were much thirst and heat of throat. On the 13th, a portion of his chest which had been blistered before his admission, and had now been sloughing several days, was affected with burning pain; the right temple on which the leeches were applied, was much swollen, and dark coloured; the right eye closed, and the leech-bites sloughed and discharged an unhealthy pus. On the 14th, in the evening, an offensive and yellowish discharge began

from the right nostril, and a large swelling arose in the middle of the forehead of a purplish appearance ; the left eye was nearly closed and numerous tumefactions took place on the arms and legs ; several phlyzacious pustules were seen on the left side of the neck ; the pulse was 112.

Mr. Stone, the assistant apothecary, who had seen the former cases of glanders in the hospital, imagined, from the present appearances, that this must be one of the same kind, and on questioning the man, actually learnt that his occupation was amongst horses, that he had been grooming a glandered horse, kept in a stable by itself, and that he remembered that the discharge from the nostril had frequently fallen upon his hand, upon which the scar of a wound was still visible.

On the 15th, being in the hospital, I was requested by Mr. Stone to see the patient, and I did not hesitate for a moment to coincide with him in opinion. I did not know the man's occupation, but asked him the same questions that Mr. Stone had put to him, and of course received the same answers. The whole scalp was now become tumefied, the forehead purplish, the eyelids red and shining, the burning sensation in the throat and nostrils, and the thirst, were intense, more tumefactions appeared on the extremities and abdomen, and several phlyzacious pustules appeared on the left side of the body.

The discharges from the skin and bowels continued copious. The pulse was 124.

On the 16th the discharge from the nostrils, chiefly from the right, was very considerable, and of a glutinous and brownish character, and ran in a continued stream down the face and neck; the thirst was unquenchable. Another purple tumefaction appeared on the right side of the nose near the inner canthus, and soon increased so as to occupy nearly the whole of that side of the nose.

On the 17th he sunk, and died early in the morning.

*Autopsy.*

On cutting into the various tumefactions on the head, trunk, and extremities, they were found to be full of pus, underneath which, in many, a number of small white granules were seen; and these, in several instances were closely attached to the periosteum or perichondrium. The frontal sinuses contained a jelly-like secretion, and a number of similar granules, and on the septum narium was an ulcer exactly like those which I have seen in the nostrils of glandered horses, and upon it lay a cluster of granules.

Two or three very large white circular elevations were found immediately below the sacculi laryngis.

Mr. Youatt, who was present, called them "true glanderous chancres."

About an inch below the valve of the colon, for three inches in extent, on the whole of the surface, were white granules exactly like those in other parts*.

---

In my former paper I stated that "as two cases, and I might say three, of this disease have occurred within my own observation in so short a space of time, and a fourth has been recorded within the same period, all in different places, I cannot but imagine that the disease, though rare, is not of *extreme rarity*, more especially when I reflect that it is not likely to be recognized, and was not in the two instances at St. Thomas's Hospital, and that it may be communicated by an abrasion of the cuticle so slight as to escape notice."

Since the publication of the paper, upwards of a dozen cases have been related to me by medical men, which they are now satisfied were instances of glanders.

* See Plate I.

ON

# THE ULCERATIVE PROCESS

IN

# JOINTS.

BY C. ASTON KEY,

SURGEON TO GUY'S HOSPITAL, ETC.

READ MAY 14TH, 1833.

THE process of ulceration, like other inflammatory actions, is subject to certain laws, which have not escaped the acute observation of our great pathologist Mr. Hunter; though they cannot be said to have received that minute investigation to which the other terminations of inflammation have been submitted. The adhesive and suppurative forms of action have received from him the most careful examination; and the labours of subsequent pathologists tend to confirm the scientific view he has adopted, and so well explained in his work on the blood.

A principal advantage derived from the investigation of the pathological phenomena of inflammation, consists in observing the modification which they undergo according to the structure and texture of the parts engaged. Pathology is thus rendered a

science of observation; and every honest and careful observer of phenomena, however humble and limited his observations may be, becomes a not unimportant contributor to the stores of medical science. With this feeling, I am induced to bring before the notice of the Society the observations I am about to offer on the process of ulceration, as it takes place in joints.

The ulcerative process is doubtless regulated by laws as fixed and certain as every other proceeding in the animal economy; the difficulty of obtaining an accurate knowledge of them is perhaps greater, than the investigation of other inflammatory actions. In the adhesive inflammation, we have certain products which can be submitted to tests, and the progress of the action can be examined in all its stages and under every variety of attendant circumstance; but in a work of destruction, as the ulcerative process, the products of the action are removed from our observation; and the several steps by which the process is effected are with difficulty followed. Yet, we may observe, that the circumstances of structure, of texture, and the extent of vital organization with which parts are endowed, tend greatly to modify the relative disposition to ulcerative action.

The wisdom of this provision and the purposes of the animal economy to which it is subservient, are too apparent and too well known to the physiologist, to require being particularized. It is sufficient for

my present object to point out three views in which ulceration may be regarded, or it might not be improperly said, three modes in which texture seems to modify the nature and course of this process: first, as it occurs in highly vascular structures; secondly, in parts possessing a somewhat lower degree of vascularity; and thirdly, as it is observed to take place in parts endowed with the least degree of organization.

The remarkable disposition to ulceration in those textures that are well supplied with blood, must be obvious, if not familiar, to us all. In the mucous membranes it is especially observable; these parts abound in vessels of large size, and are liable, under moderate degrees of inflammation, to pass into the ulcerative state; the mucous lining of the intestine, holding a first rank among vascular structures, quickly ulcerates under some forms of muco-enteritis; that of the trachea being somewhat less vascular, is less prone to ulceration.—The lining membrane of the mouth speedily exhibits an apthous surface, or even a deeper extent of ulceration, from trivial causes of inflammation; and the gums, disposed as they are to ulcerate, have this disposition still further increased, when they become spongy and more vascular.

There are some circumstances connected with this disposition to ulceration, that tend to throw some doubt on the received opinion, that the absorbents

perform the office of removing parts that are under the influence of ulceration, and to refer some share, if not the whole, of this action to the veins. It is by no means satisfactorily ascertained what part the veins and the absorbents respectively take in healthy or nutritive absorption. In the absorption produced by disease, the nature of the process is still less definitely understood; and it yet remains a problem for the physiologist to solve, whether the veins are not mainly engaged, or at least assist, the absorbents, in the process of ulceration. The above examples favour this supposition; which is further strengthened by the fact, that all structures previously to being removed by ulceration, become unusually vascular; as if a more complete development of the sanguineous tissue were essential to this mode of absorption. We shall find, when describing articular ulceration, that this view of the process receives strong confirmation from the peculiar circumstances attending the ulceration of cartilage.

The action of the veins in producing ulceration of a villous surface, as that of the intestinal canal, is by no means rendered improbable by the membrane being abundantly furnished with absorbents. Gendrin* mentions that in those who have died with ulceration of the intestine, he has usually found the veins either filled with pus, or inflamed upon their inner surface. The same author relates an experi-

* Hist. Anat. des Inflammations, p. 707, tom 1.

ment of injecting pus into the pleural cavity of an animal, and at the expiration of twenty-four hours finding, on dissection, a considerable quantity of the fluid in the branches of the thoracic veins. Other observations might be adduced in support of the opinion that the function of the absorbents is confined to nutrition, to the removal of interstitial fluids, and to the preservation of the form of the body during growth, or as Mr. Hunter has termed it, modelling absorption; and that progressive absorption or ulceration is effected through the agency of the extreme branches of the venous system *.

* Sir Astley Cooper has in his collection an ulcer of the leg very successfully injected, in which the veins are developed in a remarkable manner; they are numerous and large, and surround the margin of the ulcer. There is also in his collection another ulcer in which the absorbents of the leg have been injected; but they appear to be neither increased in size nor in number; the absorbents that in the sound state of the limb took their course through the site of the ulcer are cut through by the disease, and each absorbent can be seen to terminate in a vascular granulation.

Professor Coleman of the Veterinary College, at my request, made the following experiment. He caused to be inserted in the inner part of the thighs of an ass a rowel, which at the expiration of four days had established a copious suppuration. On the fourth day a small quantity of prussiate of potass was inserted in each sore and allowed to remain six hours, at the end of which period the animal was killed. To ascertain which of the two systems, the venous and the absorbent, had taken up most of the *salt*, I removed some blood from the iliac veins on both sides, and some from the mesenteric veins; and Mr. Coleman's dissector collected half an ounce of fluid from the thoracic duct. These I submitted to Mr. Alfred Taylor, our

In structures that present a less developed vascular tissue, the disposition to ulcerate under inflammation appears to be less determined than in the mucous textures. The serous membranes rarely afford evidence of ulceration on their exhaling surface. Pathologists who have written on the effects of inflammation in the different tissue, regard it as a somewhat rare occurrence; and when it does occur, as it occasionally does both on the pleura and peritoneum, it is the result of a complicated action, rather than the effect of a mere ulcerative process. The ulceration that is observed to commence on the peritoneal investment of the intestines, has its origin often in a scrofulous deposit, which leads to a degeneration of the membrane, and a total alteration of its structure, before the ulcerative process begins. A similar change in the texture of these membranes takes place, before they are removed by ulceration under the pressure of an abscess; adhesion of the

lecturer on medical jurisprudence and chemistry, who favoured me with the following analysis. "No. 1, the blood from the iliac veins, contains the prussiate in large proportion. No. 2, the serum from the thoracic duct contains it in about the ratio of $\frac{1}{30}$ of No. 1; and No. 3, the blood from the mesenteric veins, after standing six days, shews evidence of the prussiate in the ratio of about $\frac{1}{30}$ of No. 2, and therefore of about $\frac{1}{2300}$ of No. 1. The last specimen, No. 3, did not at first exhibit any appearance indicative of the prussiate on the application of the reagent; but it is by no means unusual for the precipitate to shew itself after the lapse of a few days; the reaction being slow when the proportion of salt is minute, and any organic substance, as albumen, at the same time present."

opposed serous surfaces is produced, and in examining the structures thus blended by the adhesive process, it is impossible to recognize the membranes; their organization has undergone a change, in order to fit them for the new process, in which they are about to be engaged.

The fibrous textures of the body, it is well known, exhibit a remarkable indisposition to ulceration; the length of time required for the separation of a dead portion of tendon, or for the pointing of a subfascial abscess, sufficiently evinces this. The long resistance which the intervertebral cartilage offers to the absorbent action caused by the pressure of an aneurismal sac, affords another example; the bones and the investing ligaments of the spinal column are frequently eroded to a considerable extent, while the fibro-cartilaginous structure often exhibits not any signs of incipient ulceration. In ligamentous fibre the process appears to be accompanied with some peculiar circumstances. The ligament, instead of preserving its usual form and size, becomes distended and feels pulpy. When cut into, the fibres are found to be separated from each other by a vascular structure, which upon being injected has a villous appearance. This interstitial vascular mass is the reticular membrane, that in the healthy structure unites the ligamentous fibres; under inflammation it becomes highly vascular, and assumes the appearance alluded to, while the fibres of the ligament retain their natural glistening appearance until, in the pro-

gress of the disease, they at length become softened and pulpy previously to their undergoing absorption. It is not improbable that the ligamentous fibres themselves are passive in the ulcerative process, which there is some reason for believing is performed entirely by the vascular tissue that surrounds them.

The most striking illustration of this passive condition of parts that are undergoing the absorbing process, is afforded in the attempt made by nature to remove a cylindrical bone that has been rendered necrotic by inflammation. In making a section of a limb in this state, the first circumstance that arrests the attention is the smooth and polished condition of that portion of the dead bone that has been exposed to the atmosphere, while the other parts of its surface and its extremities present a number of holes or indentations, as if worm-eaten. When the sequestrum is removed from its case of new bone, and the interior of the latter is exposed to view, a number of flocculent bodies are seen attached to a membrane that supplies the newly formed bone. When injected these are shewn to be highly vascular, and are seen to fill the indentations in the dead bone. If the latter be carefully taken out of its case of new bone, these vascular elongations will be found to have a slight attachment to those parts of the dead bone in which they are imbedded.

It is by means of this organization that large cylindrical bones, when deprived of vitality, are found,

in the course of time, to have undergone extensive absorption. The dead bone having no power of self-removal, the surrounding living parts are called upon to perform the office of removing the useless and offending mass; for this purpose the inner layer of the new structure which is to supply the place of the old, is furnished with an organization capable of effecting its removal; it becomes extremely vascular, resembling those structures, namely, the villous, which are known to possess, in a remarkable degree, the ulcerative disposition. The removal of dead bone, under these circumstances, has been attributed to a solvent power in the fluids effused; were this the cause of the gradual disappearance of the bone, its surface would be more uniformly dissolved, and would not present that worm-eaten appearance in those parts, to which the projections of the membrane are most closely applied.

In a manner analogous, in many respects, to the process of removing dead bone, does nature achieve the task of absorbing the cartilaginous structure, covering the articular extremities of bones. These structures possess but a low degree of organization; in their healthy condition they present very few of the characters of animal vitality; they exhibit scarcely any trace of red blood-vessels, and for obvious reasons, their supply of nervous influence is not more than sufficient to connect them with the surrounding structures, as part of a whole. Under disease they exhibit that want of action which might be antici-

pated from the limited extent of their organization. In acute inflammation of a joint, while the synovial membrane and ligaments are much altered, the cartilage appears unchanged in colour or in texture, and apparently uninfluenced by the increased action going on in the surrounding parts. The cartilage becomes, under disease, softer somewhat in texture; but this change may be as well attributed to the absence of pressure, as to the effect of inflammatory action; for healthy joints, when kept long at rest, are found to undergo a similar change, on their cartilaginous surface, from the want of that pressure to which they have been accustomed, and which may be necessary to the preservation of their due consistence. There are, however, some forms of inflammation under which the cartilage, very early in the disease, undergoes a change of structure; these instances are much less frequent, and may be looked upon as exceptions to the ordinary rule.

The peculiarity of organization is not the only circumstance that determines the disposition to the ulcerative process. There are other general causes that exert an influence in disposing parts to this form of action. Debility combined with inordinate action, or, as it is termed, irritability, which implies a disposition to action without proportionate power, is the morbid condition, on which this tendency in inflamed structure seems most to depend. Of this we see evidence, in the ulcerative disposition of newly formed parts, in the opening of recently healed ulcers, in

the phagedenic tendency of ulcers in persons of excessively irritable constitution induced by irregularity of living, in the irritability attendant on most forms of caries of bone, and in many other diseases with which every surgeon is familiar. In scrofulous habits, this irritability is usually induced by disease, and disposes the parts affected with inflammation, to ulcerate.

These observations will tend to throw some light on the mode in which articular ulceration is effected; to which process I now request the attention of the Society.

The progress of ulceration in cartilage covering the ends of bones, is not uniform in its course. The means, by which it is effected, vary according to the cause that gives rise to it. It is sometimes the result of acute synovial inflammation, or of a chronic affection of that membrane; it is occasionally found as a primary affection, independent of the other textures of the joint; or it may be the result of disease commencing in the subjacent bone, and extending to the under surface of the cartilage. All these circumstances tend to modify the course which nature adopts in the removal of cartilage by ulceration. There are four modes in which it takes place, these are sometimes found to occur, more or less, together in the same joint. I shall first describe the most common form; that, in which it occurs as a consequence of inflammation of the synovial membrane.

I am inclined to believe that inflammation of this

membrane is the most frequent cause of ulceration of the cartilage. This opinion I have been led to adopt from the examination of a considerable number of diseased joints, in which ulceration of cartilage has been found to exist in different degrees of progress, from its most advanced stage, in which the bone has been entirely denuded, to the very incipient abrasion of its surface or margin. The history of some of these cases, together with the morbid appearances, has also satisfactorily proved the existence of a long continued synovial affection, before any alteration of the cartilaginous surface could have taken place; as the cartilage in some has been quite sound, with the exception of a slight loss of substance at the edge of the bone, where the synovial membrane is reflected from it; while the symptoms of diseased joint have existed for many months, with pain over a large part of the synovial surface, and general swelling of the joint. It is not uncommon to find the extremity of one bone extensively ulcerated, especially in the knee joint, while the other may exhibit the same disease in an incipient state, and thus shew the course which the diseased action has taken. The tibia is not unfrequently seen wholly deprived of its cartilage, and one or both semilunar cartilages destroyed, while the cartilage of the femur is but partially denuded, and that of the patella sound, with the exception of its margin, which has evidently suffered in texture from its continuity with the altered synovial membrane.

The inflammation of the synovial membrane that leads to ulceration of cartilage in the ordinary

strumous affection of joints in the adult, is not, as far as my observation goes, of the most acute kind. This form of inflammation in most cases is readily controlled by remedies; probably, because it is more early attended to than subacute inflammation, and treatment more promptly applied. The less acute forms of the disease, assuming various shades of activity between the chronic and the acute forms, rarely occur for any great length of time without the cartilage participating in the mischief. This may in some measure depend on the peculiarity of those constitutions, in which subacute inflammation seems to have a spontaneous origin.

The knee joint is most frequently observed to suffer disorganization from this form of inflammation. When taken in the early stage, the subacute inflammation of the membrane readily yields to a judicious administration of mercurial remedies combined with moderate depletion and remedies that allay that excessive irritability of the system, that generally attends inflammation of the synovial membrane in delicate persons. When the more acute symptoms are subdued, the membrane sometimes fails to regain its normal condition, passing into a chronic form of action so slight, as to attract but little attention, and often regarded as stiffness that will yield to exercise and passive motion. This slight degree of inflammation that remains often lays the foundation of future mischief, especially if the condition of the patient's health is not adverted to, after the acute stage of the inflammation has subsided.

The nature of the remedies employed always leaves the patient in a state of weakness and irritability, under which the low degree of action that remains in the joint will be disposed to assume the ulcerative form. It is in this state that the compound preparations of sarsaparilla with alkalis are of so much benefit; there is no medicine that more effectually removes this irritable state of system by giving vigour and allaying excessive action. This state of joint, as the disease advances, is usually attended with more pain, than when the disease assumes from the commencement the chronic form; the intervals of ease become short and few; and the action goes on with but little interruption to the formation of abscess.

In the chronic form of synovial inflammation that occurs in indolent habits of a strumous tendency, especially persons below the age of puberty, years often elapse before the ulcerative process is completed. The symptoms are proportionally mild in their course. The joint is not much swelled; the general and uniform fullness of the joint, so characteristic, as Mr. Brodie has observed, of the most acute forms of inflammation of the synovial membrane, is absent; the joint appears as if the bones themselves were enlarged, an appearance as much produced by the shrinking of the limb above and below the joint, as by the swelling of the joint itself. The swelling of the soft parts about the joint depends on the degree of inflammation present in the synovial membrane and the consequent effusion in the soft parts. In the

most chronic forms the bones can almost be felt through their ligamentous investments; in the less chronic forms, when the disease runs its course in a shorter period, there is effusion of albumen in the soft structures surrounding the joint, which increases its volume, preventing the bones being distinctly felt, and in some measure altering the form of the joint.

It would appear then that there are three forms of inflammation (hitherto considered) of the synovial membrane leading to ulceration of the cartilage: the acute form becoming chronic, in which the joint retains the appearance of uniform swelling characteristic of affections of the synovial membrane; secondly, the chronic form in which the disease is insidious and slow in its progress, and the swelling of the soft parts inconsiderable; and thirdly, the subacute form, intermediate between the two former, marked by more activity, attended with more swelling and more pain than the very chronic form, and a more rapid disorganization of the structure of the joint.

The first circumstance that strikes us on opening a diseased joint is, the different degrees of ulceration in the articular surfaces, and the different extent to which the interarticular cartilage and ligaments have suffered. This will depend upon the part in which the diseased action has commenced, which perhaps in most cases is determined by accident, as the seat of the blow or sprain which may have excited the in-

flammation, or the form of the joint producing unequal bearing upon the surfaces, and thus determining the inflammation to that part where the pressure is greatest. The inner part of the knee joint usually exhibits the most extensive ulceration on account of the oblique bearing of the femur, and its consequently unequal pressure on the inner part of the head of the tibia. We therefore find the inner semilunar cartilage more often destroyed than the outer, and a corresponding destruction of the cartilage covering the inner condyle of the femur and inner part of the head of the tibia. The patella and the extremity of the femur are the parts on which the ulcerative process can be best traced on account of the disease being in these less advanced. In the former bone the first part that commonly gives way to ulceration is the margin of the cartilage, where the synovial membrane is reflected from it. At this point sulci of different depths are formed which cannot be always distinguished, until the thickened edge of the synovial membrane is raised. The ulcerated surface sometimes exhibit parallel vascular lines verging towards the centre, and having their origin from the synovial membrane. The synovial membrane at this part, if the vessels are well filled with fine injection, appears highly vascular, and fringed or villous like a mucous membrane. This increased vascularity is particularly noticeable at the edge of the membrane, and in these portions of the fringed margin that correspond to the ulcerated surface of the cartilage; the other parts of the synovial membrane have their

vascularity but slightly increased. This highly vascular fringe of membrane is a newly organized, and will be found in some parts to be a superadded, structure, for the purpose of producing ulceration of the contiguous cartilage. It may when recently formed be raised in some parts from the synovial membrane, but is found to adhere very slightly to that part of the cartilage where ulceration is going on; this adhesion is not perceived, unless the joint is opened with care. The nature of the process will be best understood by a reference to the patella *.

The lower part of the bone exhibits extensive traces of ulceration of its cartilage. Nearly the whole of its margin also shews signs of ulceration having commenced, with the exception of a small portion at the upper part, where the synovial membrane appears to have been converted into a substance like cartilage (*b*). The parts marked *c*, *d*, and *e*, are deeply furrowed, and the synovial membrane at these parts is fully developed and organized in the manner above described. The margin of the membrane at *a* is highly vascular, and was found in the form of two or three fringed projections filling up the space where ulceration was proceeding. In the same manner the surface of the membrane at *c*, which is drawn down, was seen to overlap and partly to adhere to the cartilage at *d*. At *e* the same adaptation of the synovial membrane was observable, and the preparation from which the drawing was made still shews

* See Plate II.

these points. At *d* the surface of the cartilage appears vascular; this arises from the production of a new membrane continuous with the synovial membrane and formed from it. Its attachment to the latter has been destroyed; but its connexion with and its supply of vessels from the synovial membrane at *b* was distinctly seen when the joint was opened. This new production of the synovial membrane performs the same office as the vascular edge of the latter, namely, the absorption of the surface of the cartilage. This membrane may be readily seen either partially developed or completely formed on the cartilaginous surface in the examination of diseased joints. It is frequently seen covering one or both condyles of the femur.

The process therefore by which the ulceration of cartilage is in this case effected, is analogous to that by which the sequestrum of the cylindrical bones under necrosis takes place. Indisposed to ulceration from the low degree of its organization, it is acted upon by the newly organized synovial surface, which is rendered highly vascular, and by means of its villous processes forms a groove in the edge of the cartilage, thus commencing the work of destruction. The cartilage at the edge is sometimes entirely destroyed so as to lay bare the bone; in which case vascular granulations also arise from the surface of the exposed bone and assist the membrane in the work of absorption. This, however, is more usually to be observed in the most acute form of in-

flammation. In the more chronic form the vascular fringe of synovial membrane contracts adhesion to the surface of the cartilage in which ulceration is going on, and gives rise to the formation of a new membrane, which spreads gradually over the surface of the cartilage. A diseased joint is hardly ever examined without exhibiting one or more of the bones partly covered with this pulpy membrane. When injected, its vascularity is found to vary according to the activity of the inflammation in the joint; when first formed it exhibits considerable vascularity, during the ulcerative process; when the cartilage has been wholly absorbed, and the ulcerative process has been checked by the inflammation being arrested, this membrane then serves another purpose; it becomes the medium of union between opposed surfaces of bone, or the means of anchylosis. Long after all inflammation has subsided, one of the condyles of the femur is often found adhering to the tibia by means of this membrane, which appears white and ligamentous, a layer of cartilage often remaining between the membrane and the bones, as if the process of ulceration were arrested.

A membrane is sometimes seen in joints under different circumstances, and affords a contrast to the above membrane, as well in structure as in its office. I allude to that adventitious membrane that is formed from the edge of the synovial membrane, in consequence of inflammation of a joint, induced by a contiguous disease of bone, as necrosis. In this case

the membrane is formed for the purpose of circumscribing the cavity of the joint, when the cartilage is destroyed by the extension of the disease. It possesses but little vascularity, is smooth on its surface, not being furnished with the villous texture necessary to the ulcerative function. The opposed cartilage under these circumstances appears entire, ulceration taking place only on the surface next to the bone, and the membrane has not any connexion with the surface of the cartilage.

The formation of the vascular membrane frequently takes place without suppuration; as may be seen in strumous joints that have been the subject of chronic inflammation for years, without abscess having formed; and the inflammation is sometimes confined to one side of the joint. Such joints are sometimes seized with an acute attack of inflammation of that part which had been previously healthy; suppuration rapidly ensues, under which the failing of the patient's health and powers demand amputation of the limb for the preservation of life. The two sides of the joint present different appearances; one shews no signs of recent inflammation; the ends of the bones, are partially, perhaps wholly, deprived of their cartilage, or the cartilaginous surface is ulcerated only to a certain depth; between the bones is seen the membrane adhering to the cartilage, white, possessing scarcely a trace of vascularity, and merely serving to connect the ends of the bones by means of what is termed ligamentous anchylosis. The other side of

the joint is full of pus; every tissue in a state of active inflammation; the cartilage removed by a rapid process of ulceration, in which the bone is probably found to have taken an active part; and the ends of the bone are seen covered with vascular fungous granulations, from which pus is abundantly secreted.

This secondary attack of inflammation in the knee-joint, is often caused by neglecting the very important precaution of supporting the weak joint, after it has recovered from the long previous inflammation. Long continued inflammation, of which we see such frequent examples, rarely fails to be attended, after a lapse of years, with partial ligamentous anchylosis of that part of the joint which has been the seat of the affection. From careful observation of a large number of these cases, and subsequent examination of the joints, I believe that the ulcerative and anchylosing process may be going on for many years. Nature seems to have in view, as her ultimate object, the complete anchylosis of the surface of the joint; this she effects with the least possible degree of inflammation, and her task is often completed with little disturbance of the patient's general health, except occasionally slight attacks of pain and some swelling about the joint, that subside under rest and mild treatment. But it is necessary in order to bring the process to a successful termination, to favour the process by restraining the limb from motion, and by giving due support to the joint to prevent any accidental strain or extension of the interior struc-

tures of the joint, which may occasion acute inflammation. This can only be effected by means of a firm splint of wood or metal, combined with straps of plaster and mercurial ointment applied in the manner recommended by Mr. Scott. The latter applications, however, are more successful in reducing chronic inflammation in its earlier stage, before the membrane is formed; when this has taken place, support with pressure, and a small issue, if it can be borne, are more advantageous. With this security given to the joint, the patient is enabled to take moderate exercise, inflammatory attacks are in a great measure prevented, and he may confidently look forward to the possession of a very useful though partly stiff limb.

The destruction of the semilunar cartilages in its process resembles that of the intervertebral substance of the spine and other similar fibro cartilaginous structures. It is preceded by inflammation of the contiguous synovial membrane, which is followed by softening of the cartilage. It seems to be rather a process of slow degeneration than of progressive ulceration. They are sometimes destroyed very early in the disease; the first symptom of the affection of the joint is pain about the head of the tibia, and on each side of the ligamentum patellæ, with effusion about this part of the joint. In acute inflammation, on the contrary, the cartilages are not unfrequently found entire, while those covering the surfaces of the bones have undergone extensive ulceration.

The hip-joint is less frequently the subject of acute than of chronic inflammation, probably, from being well protected from the influence of atmospheric changes, to which the knee and most other joints are exposed. In the adult, acute disease of this joint is occasionally seen, in which the whole structure of the joint, cartilages as well as ligament, undergoes complete disorganization in the space of a few weeks. But the hip disease, emphatically so called, is a chronic affection uniformly attended with ulceration of the cartilage.

Mr. Brodie, who has given a most clear and correct account of the symptoms and progress of the disease, regards it as a primary affection of the cartilage. The opportunities which present themselves to any individual, of observing this disease in its early stages by dissection, must necessarily be few. The cases, which it has fallen to my lot to examine, have induced me to believe that the ulceration of the cartilage is preceded by inflammation of the ligamentum teres. In the drawing of the early stage of this disease, which I lay before the Society, will be seen the usual morbid appearances that I have met with. This joint was taken from a young female who for six months prior to her death had laboured under the usual symptoms of chronic inflammation of the hip-joint. The symptoms had partly yielded to the treatment employed, when she was attacked with another disease of which she died. The ligamentum teres was found much thicker and more pulpy than

usual, from interstitial effusion, the vessels upon its investing synovial membrane were distinct and large, without being filled with injection. At the root of the ligament, where it is attached to the head of the femur, a spot of ulceration in the cartilage is seen, commencing, as it does in other joints, by an extension of the vessels in form of a membrane from the root of the vascular ligament. The same process was also taking place on the acetabulum, where the ligamentum teres is attached.

I cannot undertake to say, that the hip disease shall, in every instance, present these morbid appearances, or that cases do not occur in which ulceration exists as a primary disease, without any affection of the ligament or synovial membrane. Mr. Brodie's assertion that it does exist as a primary disease, coming from so excellent a pathologist, is sufficient to substantiate the fact. But observation of this disease in its different stages, and of the mode in which the disease is brought into action, together with the post mortem appearances, affords strong proof, that, at least in many instances, the action is propagated from the ligament to the cartilage, and that ulceration of the latter is consequent upon inflammation of the former.

The beginning of the affection is frequently to be traced to a fall, by which the legs have been forcibly separated, and the ligamentum teres stretched. In some cases, the injury has been so considerable, as to

occasion the patient to rest the limb for some days, on account of the severity of the pain. This to a certain extent subsides; and the inflammation that remains, assumes the chronic form. If the patient's health is good, he recovers with only a slight temporary weakness in the joint; in the more feeble habit with a tendency to strenuous action, the disease gradually passes into the ulcerative form. Sometimes from the tender age of the child, no cause can be assigned for the disease; perhaps, in some instances, it may have a purely constitutional origin. The motions of the joint, that give the patient most pain, are strongly indicative of the seat of the affection; in the earliest stage, before the soft parts could well be affected, if the disease commenced in the cartilage, eversion of the thigh, and abduction of the limb from the other, produce the greatest degree of suffering to the patient; while he can bear the joint to be flexed, and to be slightly inverted, without complaining. A similar indication of the ligamentum teres being inflamed, is the pain sometimes expressed on pressing the head of the femur against the acetabulum; in its healthy state the ligament, being lodged in the hollow of the acetabulum, receives but little pressure; but when it is swelled by inflammation, the cavity of the joint affords it less protection, and when pressure is made by forcing the head of the femur upwards, the ligament is compressed, and usually produces some degree of pain. The circumstance, too, of the ligamentum teres being destroyed by ulceration, when the head of the bone and acetabulum are only

partially ulcerated, may be considered as presumptive proof of it being very early engaged in the disease. There are few cases of post mortem inspection of the hip joint in an advanced stage of disease, in which the ligamentum teres is not found destroyed.

There is a disease about the tarsus, the commencement and progress of which resembles, in many points, that of the hip joint. It is usually considered as a disease of the ancle joint itself; but it has its origin in the articulation of the under surface of the astragalus with the os calcis. The inflammation is slow in its progress, and when fairly established in the joint of a strumous subject, rarely fails to end in destruction of its cartilage, and of the interarticular ligament connecting these bones together. It is usually attributed to a sprain, or twist of the foot sidewise, as if the ligaments had been injured; this joint has extensive lateral motion, and is restrained in its movements by this ligament. Very early in the disease, the least stretch of the ligament causes acute pain, and examination of the joint, where the opportunity offers, also proves it to be inflamed and thickened and often extensively disorganized. The mischief is generally not confined to this joint, but extends to the upper surface of the astragalus. The ancle joint however, in the cases which I have had an opportunity of examining, has suffered much less from ulceration of its cartilage, than the lower joint; and I believe that in many of the cases, which are regarded as disease of the ancle, the action will be

found to have its origin in the interarticular ligaments connecting the os calcis and astragalus, and extending, as in the hip joint, from it to the surface of the cartilage. The vascular membrane, which the synovial investment of the ligament assists in forming, may also be distinctly traced.

---

The second mode in which nature effects the ulceration of cartilage without the agency of its own vessels, may be seen in the rapid process of disorganization that follows a wound into a joint.

Under chronic strumous action there is time allowed for the gradual developement of a membrane that extends itself over the cartilage, and in its progress absorbs it. But in acute inflammation followed by suppuration the process is modified, and affords, perhaps, the best and clearest illustration of that mode of ulceration which it is the object of this paper to explain.

When suppuration follows acute inflammation from a wound of the synovial membrane, the latter undergoes that change which enables it to perform its new function. The surface becomes highly vascular, and in most parts covered with a new deposit of adhesive matter, which adheres firmly to the synovial membrane. The new surface is irregular, wanting the polish of the original membrane, and appears in many parts villous or furnished with vascular fringed projections. In a joint thus far advanced in disease, the

only mode of arresting the disease, or of repairing the mischief occasioned by the inflammation, consists in the production of anchylosis. To this end the removal of the cartilage is an essential step; and it would appear that the office of removing it devolves on the inflamed synovial membrane. The cartilage, under these circumstances, is not only eroded at the edge where the synovial membrane is reflected from it; but grooves and indentations may be traced in various parts of it, having no connection, as in the progressive strumous form of ulceration, with the edge of the synovial membrane, and not shewing any indications of a new membrane forming on its surface.

The means by which this ulceration is effected appear to be the newly organized surface of the synovial membrane in contact with the parts in which absorption is going on. To those who will carefully examine joints in this condition, the evidence of this will, I think, be sufficiently conclusive. The absence of all action in the cartilage and a total want of vascularity in those parts where ulceration appears to be most active, were the circumstances that first led me to look for some agent in the work of ulceration. The ulceration evidently begins on the surface of the cartilage, and not on that side next to the bone. It presents merely an eroded surface; there is no disorganization of its texture in the parts where absorption is about to take place; there is no previous degeneration of the cartilage into its primary fibrous structure, as may be seen in other forms of ulcera-

tion; but the cartilage seems to have lost part of its surface, as if it had been dug out; the remaining part appearing healthy, and presenting no trace of increased vascularity. The grooves are found only in those parts of the cartilage that happen to be opposed to the fringed and vascular synovial membrane; and these highly organized portions of the membrane may be seen to be closely adapted, and even to fit into the grooves in the cartilage. Those parts of the cartilage that happen to be in contact with another cartilaginous surface present no signs or trace of ulceration, but appear to the eye perfectly healthy, and in texture firm. The process exhibits the closest analogy to that by which nature removes dead bones; the same inactivity or passive condition of the parts absorbed; the same suppurative action from the vascular granulation; and a similar degree of vascularity bestowed upon the newly organized structure, which has to perform the office of absorption.

It is not, however, in every instance of suppuration in a joint, even where this villous membrane is found, that ulceration of the opposite cartilage is to be looked for as an uniform occurrence, for strumous joints are occasionally examined, in which the synovial capsule has been for many months distended with purulent secretion, and the synovial membrane covered with flocculi hanging into the joint, without a trace of ulceration in the opposite cartilaginous surface. This exception rather favours the view which I have advanced of the ulcerative process in the case of suppu-

ration from wound. The condition essential to the act of absorption is here wanting. There is not a wound or opening by which the pus can escape as fast as it is secreted; it consequently collects in the cavity of the joint, and, by distension, prevents the membrane coming in contact with the cartilage; and the villous projections from the membrane, even when the vessels are well filled with fine injection, do not exhibit that degree of vascularity which is so clearly developed when ulceration of the cartilage takes place. This little comparative vascularity accords with the suppurative action being slow and proceeding without pain or the other signs of inflammation.

The knee joint, which first led me to suspect the action of the membrane in this form of ulceration, and of which I have given a drawing, was removed by amputation between four and five years ago on account of an accident. The patient, a healthy man, about 34 years of age, was thrown with force from the seat of a cabriolet which he was driving, and cut the outer part of the knee by coming in contact with a sharp stone. He came to the surgery of the hospital, and having had the wound dressed, returned to his occupation. In the course of a few days, finding that his knee had swelled considerably, and had become very painful, he came to the hospital for admission, and was placed under my care. The capsule of the joint was distended with fluid, and exquisitely sensitive on pressure being

made; the wound in the integuments had partly healed, but looked unhealthy; his pulse 120 in a minute; his tongue, skin, and countenance bearing every indication of fever. The suspicion, which I entertained of the synovial membrane being wounded was soon confirmed by a rapid process of ulceration in the membrane, and an extensive burrowing of pus along the back part of the leg under the gastrocnemii muscles, and also under the extensor muscles on the fore part of the femur. His condition being such as to preclude all chance of saving his life without amputation, at the end of the third week the operation was performed, and with ultimate success. The joint, which had been carefully injected with fine injection soon after the operation, was examined on the following day. On being laid open, it appeared to contain scarcely any pus, the surfaces of the parts forming the articulation being in close contact. On turning the patella down by making two lateral incisions, the singular appearance of the inner condyle of the femur forcibly struck those who were present. Deep grooves of ulceration had been formed on its surface as if, to use Mr. Brodie's expression, portions of the cartilage had been chiselled out; and although the injection had filled the smallest vessels of the inflamed synovial membrane, not a trace of vascularity could be distinguished either upon or in the neighbourhood of the ulcerated grooves. The outer condyle exhibited the same appearances, but in a less degree.

On replacing the patella, it appeared that only those parts of the cartilage had suffered a loss of substance, that were opposed to the inflamed synovial membrane; the surface of the patella and the corresponding trochlea of the femur retaining their integrity and natural appearance. The synovial membrane opposite to the grooves in the femur was covered with an irregular layer of membrane presenting several fringed projections, that fitted into the grooves of the absorbed cartilage, and at the points where ulceration had been most active, the flocculi of the membrane appeared to be most vascular. At the points *f* and *g* will be seen a corresponding portion of cartilage and membrane, the former free from ulceration, and the latter smooth, and but little vascular; while the contiguous surface of the cartilage at *b* and *c*, and the membrane at *a* and *d* have undergone a change, that cannot but be regarded in the relation of cause and effect. A process of ulceration has also commenced at the margin of the cartilage at *h*, where the synovial membrane shews unusual vascularity, and similar appearances are observable at the whole circumference of the patella. In carefully looking over this joint, I could not discover any part of the cartilage in a state of ulceration, to which the synovial membrane had not access; and wherever the fringed vascular membrane had applied itself closely to the opposite cartilage, ulceration appeared to have made more or less progress.

Nature, it seems, does not often adopt this mode of

removing the cartilage. It is only in the acute form of inflammation, as in wounds of joints, that I have observed it. The process of removing the cartilage appears at all times and under all circumstances of disease, an object that she endeavours to accomplish; while the cartilage remains entire, anchylosis, the natural cure in some forms of diseased joint, cannot be effected; and therefore we may often observe ulceration of cartilage going on very early in those diseases, that from some defect in the patient's constitution cannot be arrested without anchylosis. The means by which nature effects her purpose of removing the cartilage, which being unable to take an active share in the process of anchylosis is an impediment in the way of her process, will be found to vary according to the activity of the inflammation and the consequent rapidity of the process. In the most chronic form of strumous ulceration, the removal of the cartilage is effected by the gradual developement and organization of the synovial membrane where it is reflected from the edge of the cartilage, as I have endeavoured to explain in a former part of this paper. Where the process is required to be more rapid, a false membrane is effused from the edge of the synovial membrane, that gradually diffuses itself over the whole surface of the cartilage, and by means of its increased vascularity, ulcerates the cartilage even to the bone, anastomosing often with the granulations of the exposed cancellated structure. In the most intense forms of inflammation, all her resources are called to her assistance;

the ulcerative process is not confined to the margin of the cartilage or to the action of a membrane having its origin from the margin; but, the opposite synovial surface is furnished with the necessary organization, and takes an active share in the work of destruction.

---

The degeneration of the cartilage of a joint into a fibrous structure is, as far as my observations have enabled me to judge, a disease of a peculiar character, and differing in many respects from the ordinary affections of joints that end in the destruction of the cartilage. I have had but few opportunities of verifying by dissection, the existence of this disease. Mr. Brodie has described it, and appears to regard it as a not uncommon occurrence; in one instance he found it combined with disease of the intervertebral substance. Of three cases that have come under my notice, two occurred in subjects brought into the dissecting room, and the history of which I was unacquainted with; the other case was that of a gentleman who was labouring under stone in the bladder, and suddenly experienced a severe attack of pain about the head of the fibula and the bursæ at the back part of the head of the tibia. The pain was accompanied with considerable fever, and slight swelling of the parts in which he complained of the pain. On the third day the pain shifted from the fibula to the knee joint, which swelled as if from an effusion of synovial

fluid. The suffering now became excessive, and the fever assumed the typhoid character. At the end of ten days from the commencement of the attack, he died. The bladder presented less evidence of inflammatory action than might have been expected from the intensity of his sufferings. The knee joint was distended with a thin opaque synovial secretion of a somewhat puriform character; the surface of the synovial membrane presented here and there patches of more than ordinary vascularity. The cartilaginous surfaces of the bones were entire with the exception of a small spot on the end of the femur, which appeared ragged, and irregularly broken up into a fibrous mass.

This change in the cartilage is analogous to that which the intervertebral substance undergoes under scrofulous action. I have not had opportunities of examining the condition of the synovial membrane in this affection.

The removal of the cartilage from the heads of bones in old people, proceeds so slowly that it is difficult to say, on the examination of a joint, whether the action has ceased, or is still in a state of progress. The form of disease to which I allude, is attended with a good deal of stiffening of the joint, accompanied by what are termed rheumatic pains. The place of the cartilage is often supplied by a bony deposit resembling ivory in texture as well as appearance. I have in one case seen the synovial membrane

at its margin fringed and vascular, and apparently engaged in the ulcerative process. It was in a shoulder joint of a gentleman nearly sixty years of age, who had met with an accident to the shoulder, by which the actions of the joint had been impaired in consequence of subsequent chronic inflammation. I am unable to offer any very conclusive evidence as to the exact nature of the process in all such cases; but I believe it will be found to be analogous to the processes which I have previously described.

---

The last form, in which ulceration of cartilage takes place, is that which commences on the surface of the cartilage attached to the bone.

"In this disease of the joints," says Mr. Brodie, "the cancellous structure of the bones is the part primarily affected; in consequence of which ulceration takes place in the cartilage covering their articulating surfaces. The cartilage being ulcerated, the subsequent progress of the disease is in many respects the same, as where this ulceration takes place in the first instance." *

There are two forms of disease in the bone under which this secondary absorption of cartilage takes place; the one is of a chronic nature; the other

* Brodie on Diseased Joints, p. 210.

assumes an acute form; but in the process of ulceration the same passive condition of the cartilage may be observed, as in that which commences within the cavity of the joint.

The chronic form is that in which a strumous action takes place in the cancellated structure, "which becomes preternaturally vascular, and contains a less than usual quantity of earthy matter; at first a transparent fluid, and afterwards a yellow cheesy substance is deposited in the cancelli."* When the cartilage begins to give way, vessels can be seen shooting towards it, and accumulate in sufficient number to form a vascular tissue covering the attached surface of the cartilage. I have never examined a joint, in which disease appeared to have begun in the cancelli, and in which ulceration commenced on the surface of the cartilage within the joint. The ulcerative process having opened, or nearly so, the surface of the cartilage towards the joint, the synovial membrane becomes inflamed, and the ulceration is then forwarded by a similar process commencing at the edge of the cartilage, by means of the synovial membrane and a newly developed vascular structure, as has been previously described.

The bones, in which I have observed this form of disease, are the small bones of the carpus and the extremity of the femur; and more frequently, the

* Brodie on Joints.

head of the tibia, and the bones of the tarsus. Persons of all ages appear to be liable to it; I have witnessed it in patients from the age of two years to fifty. The subjects of it are those who appear to possess in a marked degree the scrofulous diathesis. The symptoms of the disease and its progress are, unquestionably, familiar to the surgeon, from the accurate and clear description of Mr. Brodie.

It is unnecessary to make any further observations on this form of ulceration, as I apprehend that most pathologists will concur in the probability of the loss of the cartilage being effected by means of the vascular granulations that spring up from the cancelli, and appear to form a continuous structure with the surface of the cartilage. In making a transverse section of a joint under these circumstances, there is no trace to be seen of increased vascularity in the cartilage, nor in the synovial membrane until the action is far advanced, that could lead us to suppose, that the cartilage was ulcerated by any other agent than the vascular tissue of the bone.

The acute form of the disease differs from the former in the comparative suddenness of the attack, as well as in the appearance which the bone presents. The former is like all strumous affections, slow in its progress, and at first marked by little or no pain in the part. Months often elapse, before the symptoms become severe, and the constitution much affected. But in the acute form of disease attacking the spongy

extremities of bones, the pain is often severe in the beginning, the limb at that part tender when pressed, and the constitution a good deal disturbed. A few weeks only elapse before the joint exhibits symptoms of participating in the mischief. From this time the disease makes rapid progress; if suppuration takes place in the cavity of the joint, the synovial membrane ulcerates, and allows the matter to burrow between the muscles of the limb; fistulous openings at length form, and tend in some measure to abate the patient's sufferings. The effect, however, upon the constitution is such, that amputation is usually resorted to for the preservation of life.

Examination of such a joint exhibits very different appearances from those which are observed in the chronic strumous disease of the bone; not in the cavity of the joint itself, for here the process of destruction is in some respects the same; but in the bone the affection is found to be altogether of a different character. The substance of the bone retains its firmness of texture; and when cut through shews no signs of disease except at one part of the cancelli. There a cavity is found containing one or more portions of detached bone, surrounded with pus; this cavity is found to communicate with the joint by a fistulous opening of small size, which may sometimes escape observation. The cancellated structure of the bone surrounding the cavity usually appears natural and sending forth vascular granulations. The cartilage covering the end of the bone is extensively ulcerated

in some parts, while in others it appears to have undergone no change. The process of ulceration evidently begins on the outside of the joint, for the cartilage when closely examined, appears to be undermined, and the surface towards the joint where this undermining process is going on, seems quite sound. The synovial membrane shews signs of acute inflammation, and its cavity is found to communicate with one or more extensive collections of pus above and below the joint.

This form of disease is in its nature analogous to necrosis of the shafts of the cylindrical bones. The cancellated structure of the spongy ends of these bones, is not unfrequently the seat of inflammation, from accident or from idiopathic causes, which ends in the death of a small portion of the structure. If the disease commence above the epiphysis, an abscess forms externally, and the dead portion escapes at the aperture, in the form of a spongy mass consisting of little else than earthy matter. The opening rapidly heals after the exciting cause is removed. The progress of the case, however, is very different when the epiphysis itself is inflamed, and death ensues in some portion of its spongy texture. The abscess which forms around the dead mass, finds difficulty in forming an outlet externally through the dense ligamentous structure that invests the sides of the epiphysis, and thus the cavity of the joint becomes endangered by the pressure of the matter towards the cartilaginous surface. The bone undergoes gradual absorp-

tion until the pus reaches the cartilage; then for a time the process becomes checked, but as granulations spring up from the surrounding cancelli, the cartilage yields to their influence, and the cavity of the joint at length communicates with the purulent depôt in the substance of the bone.

It is not improbable, from what is observed in the process of necrosis in the shafts of long bones, that the dead portion may be absorbed by the surrounding living parts, and thus prevent the necessity of the abscess bursting into the cavity of the joint. Our means of forwarding this desirable termination of the disease, in some joints, are limited to such as diminish inflammatory action; while in others, as in the head of the tibia and in the trochanter, the trephine may be employed with the best possible effect; and if applied early in the disease, may prevent the disorganization of the joint.

The drawing represents the appearance and condition of a bone under this state of disease. The bone is that of a child, whose femur had been attacked with inflammation, which rapidly spread to the knee joint. From the imperfect history of the case afforded by the parents, it appeared that it had been considered from the commencement as a case of articular inflammation; and in so young a subject, whose bones are so well covered with adeps, it may be at first difficult to distinguish accurately between a disease of the epiphysis and of the synovial mem-

brane. When admitted into the hospital, it presented the usual appearances of advanced articular suppuration; two considerable fistulous openings were formed to communicate with the joint, and also with a large abscess that extended up the thigh. The child's health precluding all chance of recovery, except from a speedy removal of the disease, amputation was performed. The cavity in the bone and the dead portion of the cancellated structure which were discovered by a perpendicular section of the condyle, sufficiently explains the nature and cause of the diseased action of the joint. The appearance of the cartilage I would particularly bring before the notice of the Society. It appears wholly free from vascularity, though the part has been injected with size and vermilion; and the surface seems healthy; the parts where ulceration is going on, appear undermined, and the spots of ulceration are filled up with a tuft of vascular granulations, which are in all probability the agents by which the cartilage has been removed. The appearances are strikingly analogous to those observed in the section of a dead cylindrical bone which is undergoing absorption.

# HISTORY

OF

A CASE OF

# MEDULLARY SARCOMA,

WHICH AFFECTED SEVERAL IMPORTANT VISCERA,

WITH A DESCRIPTION OF THE
MORBID APPEARANCES WHICH WERE OBSERVED ON DISSECTION.

BY GEORGE LANGSTAFF, ESQ.

READ 27TH MARCH 1833.

The patient was a woman, 38 years of age, who had borne eleven children, and had enjoyed a good state of health until within the last two years of her life, when symptoms denoting a morbid condition of the liver began to shew themselves, accompanied with a disordered state of the digestive organs.

The symptoms soon assumed a more alarming aspect; great pain was experienced in the region of the liver, (which increased in size,) in the right shoulder, and in the loins.

During the four months which preceded her death, the patient's health declined rapidly, and she became

greatly emaciated, without, however, exhibiting signs of ascites, œdema, or jaundice.

The menstrual period having ceased during this time, she imagined herself pregnant and I was requested to meet the medical gentleman in attendance in order to give my opinion respecting the nature of the disease; this was about three weeks previous to her decease. On examining the abdomen, it was found enlarged to the size which it assumes at the full period of utero-gestation, and the parieties being very thin, I ascertained that the liver abounded with tubera, which I concluded to be of the fungoid or medullary kind, from the distinctness with which they presented themselves on the external surface of the organ, a peculiarity which, (as I have had several opportunities of ascertaining by post-mortem examination,) is more remarkable in the fungoid than in any other form of hepatic disease. Slight pressure on the abdomen was productive of great pain; there was also pain in the region of the left kidney, and the patient informed me that she had passed an offensive puriform fluid with her urine, for some time. She was extremely restless; had been greatly depressed in spirits, and was occasionally afflicted with singultus and vomiting; the appetite was bad, and the pulse small and 120 in a minute.

On examining the region of the pubes, I could not detect any enlargement of the uterus indicative of pregnancy, and I considered the question of its

existence as one of little importance, as the patient did not appear likely to survive more than a month, and further, it seemed improbable that a person so much diseased could be pregnant.

During the fortnight previous to her death, the bodily powers of the patient gradually sunk, her mind also became perturbed; she took very little nourishment, and her pulse was 150 and extremely small.

In the progress of the case, the tumefaction of the abdomen greatly increased, the integuments became inflamed, symptoms of sphacelation commenced, and the skin assumed an irregular surface corresponding with that of the tubera in the liver beneath.

About twelve hours prior to the patient's dissolution, uterine hæmorrhage commenced, which was succeeded by the expulsion of a fœtus, of the third or fourth month of utero-gestation and which was in a putrid condition: the placenta was not expelled.

*Sectio Cadaveris.*—On opening the abdomen, the liver appeared to occupy the principal part of this cavity, and firm adhesion, by organized lymph, firmly united the serous investment of the convex surface of this viscus to the peritoneum, covering the anterior part of the abdomen. Nearly the whole of the natural structure of the liver had been superseded by

the production of medullary and fungoid tubera, which projected considerably from the external surface of the organ, and many of which had acquired the magnitude of a moderate sized orange.

On making sections of the liver, the tubera were observed to be contained in dense and highly vascular cysts, a fact which was the more distinctly shewn from the arteries having been injected with size and vermilion.

Those portions of the liver which retained their natural structure were of a pale white colour, with scarcely any signs of vascularity, or appearance of biliary ducts, which induced me to suspect that the secretion of bile had been suspended for some time; a circumstance which might account for the absence of jaundice.

The gall-bladder contained a small quantity of a viscid dark-coloured secretion.

In the substance of the pancreas there were three moderate sized tumours and several minute ones of a scirrhous structure: some of the mesenteric glands were converted into medullary tumours.

The spleen retained its natural structure.

In the right kidney were found medullary and fungoid tubera.

The uterus was healthy, with its mouth widely expanded, and the placenta partially detached.

The right ovarium was considerably enlarged, and its natural structure destroyed by the production of scirrhous and fungoid tubera; it contained, besides, several serous cysts—*not* hydatids.

The left ovary was nearly as large as the other, and similarly affected with fungoid tumours and serous cysts.—The Fallopian tubes were pervious.

It may here be mentioned that the arteries of the uterus were injected with size and vermilion, which had passed on from them into the substance of the placenta, producing a deceptive appearance of the arteries of the chorion being filled; this was dissipated by maceration.

Sections of the ovaria were made and minutely examined, with the purpose of discovering a corpus luteum, but without success.

*Observations.*—It seems almost incredible that a person with such extensive disease in various viscera, and with such a disordered state of the general health, could have become pregnant. It would be a difficult point to decide pathologically or physiologically how it was possible for impregnation to have been effected, when, as was shewn by dissection, all the natural structure of the ovaria had been destroy-

ed. Perhaps, at the time of impregnation, some portion of the ovaries might have contained a vesicle capable of effecting the purpose, and then the changes produced by utero-gestation excited the vessels of the ovaries in accelerating the morbid growth which affected them. I feel the more inclined to entertain this opinion, from having observed, (by a daily examination,) that the liver, during the three weeks that I attended the patient, underwent a manifest enlargement.

In my museum there is a preparation of the uterus of a young woman, which is itself perfectly healthy, yet both ovaries are filled with medullary and fungoid matter: this patient owed her death to the production of an enormous tumour at the knee-joint, which had caused absorption of the capsular and other ligaments and had also destroyed, to an extent of six inches, the periosteum covering the anterior surface of the femur, which, at the part thus denuded, was considerably reduced in size by progressive absorption: the popliteal artery, vein and nerve, were imbedded in and compressed by the diseased growth, so much so, that it is surprising how the circulation in the leg was carried on.

# CASE OF BONY UNION

OF

# A FRACTURE

OF

# THE NECK OF THE FEMUR

## WITHIN THE CAPSULE,

OCCURRING IN A YOUNG SUBJECT.

BY EDWARD STANLEY, F.R.S.,

LECTURER ON ANATOMY AND PHYSIOLOGY, AND ASSISTANT SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

READ 27TH MAY, 1833.

A YOUNG man in his eighteenth year fell from the top of a loaded cart upon his right hip, the injury of which was attended by the following symptoms. He was wholly unable to move the limb, and suffered severe pain when it was moved by another person. The thigh was bent to a right angle with the pelvis, and could not by any means be extended. Abduction of the thigh was difficult. The limb was everted, at first slightly, afterwards in a greater degree. The soft parts around the hip joint were considerably

swollen. There was no shortening of the limb, but rather the appearance of a lengthening of it in the erect posture, probably from the obliquity in the position of the pelvis. No crepitus could be felt in any movement of the limb.

The foregoing symptoms were not considered to indicate conclusively the existence either of dislocation or fracture. The age of the patient was unfavourable to the occurrence of a fracture of the neck of the thigh bone, the general opinion therefore of the several surgeons to whose judgement the case was submitted, favouring the belief of a dislocation into the foramen ovale, forcible extension of the limb was made by means of the pulleys, and the thigh then moved in several directions, by which the head of the bone might be replaced in its socket.

About two months after the accident, the patient was received into St. Bartholomew's Hospital. His health was now found to be much deranged. His pulse was frequent and hard. He complained of pain in the head, also in the injured hip, and down the opposite thigh. This illness was considered to be the effect of cold, but it did not yield to the treatment which was adopted. He remained nearly in the same state for about a month, and during this period, on account of the derangement of the health, no examination was made of the injured hip. At length, eruptions appeared generally

over his body, which were considered to be small pox, and in two days afterwards, he died.

In the examination of the body, no other morbid appearances were discovered besides those of the injured hip joint. The capsule of the joint was entire, but a little thickened. The ligamentum teres was uninjured. A line of fracture extended obliquely through the neck of the femur, and entirely within the capsule. The neck of the bone was shortened, and its head, in consequence, approximated to the trochanter major. The fractured surfaces were in the closest apposition, and finally united nearly in their whole extent by bone. There was an irregular deposition of bone upon the neck of the femur, beneath its synovial and periosteal covering along the line of the fracture.

The foregoing case is remarkable from the occurrence of a fracture of the neck of the femur within the capsule at an early age, and it is I believe the only example of it on record. In the memoirs of the Academy of Surgery *, Sabatier has related the case of a boy aged 15, in whom, after a fall upon the hip, lameness ensued, and sometime afterwards, a shortening of the limb to the extent of three inches, with a projection of the trochanter major, and an inclination of the whole limb inwards. The patient recovered sufficiently well to be able to walk, but with a consi-

* Tom. x. 12mo. edit.

derable restraint in the movements of the thigh. Here it may be presumed a fracture had occurred, but it is certain that the seat of it could not have been within the capsule of the hip joint from the great extent of the shortening of the limb.

It will be remarked that in the instance now recorded, notwithstanding the free and repeated examinations of the limb, and the forcible extension of it by the pulleys, in short with every circumstance except the age of the patient, unfavourable for a bony union of the fracture, this had been nearly completed. If this case had occurred at an advanced period of life, we may be certain that there would have been but a very imperfect union of the fracture, and it shews satisfactorily, that in the ordinary cases of fracture of the neck of the femur within the capsule, the age of the patient and consequent deficiency of vascular action, especially in the separated head of the bone, is the most influential of the causes to which the failure of a bony union has been in general ascribed.

ON

# IRRITATION OF THE SPINAL CORD

## AND ITS NERVES,

IN CONNECTION

WITH DISEASE IN THE KIDNEYS.

BY EDWARD STANLEY, F.R.S.,

LECTURER ON ANATOMY AND PHYSIOLOGY, AND ASSISTANT SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

READ MAY 28TH, 1833.

In the following paper, cases will be related of disease in the kidneys existing in connexion with tenderness of the spine and paralysis of the lower limbs, which were, in consequence, treated as cases of disease in the fibro-cartilages and bodies of the vertebræ. Such instances not having been, as I believe, recorded, will probably be considered worthy the attention of the Society from their practical importance, and they may be interesting as illustrations of the pathology of the nervous system.

The first of these cases to which my attention was directed, occurred in the year 1818, in a man admitted into St. Bartholomew's Hospital, on account of

paraplegia combined with retention of urine. Both sensation and the power of motion were entirely lost in the lower limbs. On examining the spine, tenderness on pressure was discovered at the third lumbar vertebra, which, viewed in connexion with the other symptoms, was considered to indicate the existence of disease in the vertebræ, and an issue was accordingly made in this part of the spine. Considerable amendment of the symptoms followed. Sensation and the power of motion were in a certain degree regained, and the retention became changed into incontinence of urine. Here the improvement ceased, the general health failed, and he gradually sunk.

On a careful examination of the body, no disease could be discovered in the containing, or contained parts of the vertebral column; the vertebræ, fibro-cartilages, spinal cord, and nerves were all perfectly sound, as were also the brain and its membranes. In one kidney were numerous small abscesses dispersed through its substance. The other kidney was gorged with blood, and its substance was much softer than natural. The mucous lining of the ureters and of the bladder was very vascular, and the muscular coat of the bladder was thickened.

The next case occurred in 1821, in a man aged 35, admitted into the hospital on account of partial loss of the power of motion both in his upper and lower limbs, which had commenced about a month previously, and was supposed to originate in disease

of the cervical vertebræ. He suffered besides from irritation in the bladder with occasional inability to expel the urine which was mixed with some puriform fluid. In about six weeks from his admission, his health gradually declining, he died.

On examining the body, both kidneys were found gorged with blood. In the substance of one kidney there were small depositions of pus. The muscular coat of the bladder was thickened, and its mucous coat very vascular. No morbid appearance was discovered in the brain or spinal cord. The vertebræ and their fibro-cartilages were perfectly healthy.

For the particulars of the following case I am indebted to an intelligent friend, Mr. Henry Hunt, of Dartmouth.

A gentleman, aged 28, fell upon his back and bruised it, from which, however, he recovered in a few days. Some weeks afterwards, when very hot from violent exercise, he was suddenly chilled by exposure to a current of cold air. During the following night he was seized with severe pain in his loins, which was to a certain extent relieved, and principally by abstracting blood from the part. With the continuance of pain in the back, he began to lose feeling and the power of motion in his lower limbs. The pain in the back was increased by pressure, but was not influenced by the application of a hot sponge. He gradually lost almost all power of moving

and feeling in his limbs, with the ability to retain his urine, and in this condition he died.

On examination of the body, one kidney was found to consist of a mere sac distended with pus, and in the other kidney, were several small abscesses. There was no disease in the spine or in any other part of the body.

I next mention the brief particulars of a case which was furnished me by the late Mr. Horwood of Gosport, whose life was destroyed by cholera whilst he was engaged in the zealous performance of his professional duties.

The patient having suffered a fall upon his back which was followed by paralysis of the lower limbs, his complaint was, in consequence, considered to be disease of the spine, and the appropriate treatment was adopted and continued to the time of his death.

The appearances on dissection were, abscesses in both kidneys, thickening of the coats of the bladder with enlargement of the prostate gland. The thoracic and abdominal viscera were healthy. The brain and spinal cord were healthy excepting an unusual vascularity in the membranes of the latter below the first lumbar vertebra. There had not been the slightest suspicion of disease in the kidney, the pain in the back having been wholly referred to

the disease which was supposed to exist in the spine.

Here were four cases considered to be diseases of the spine, and treated accordingly, in which the vertebræ, their fibro-cartilages and ligaments were found healthy, and the only disease ascertained to exist was seated in the kidney, with which, therefore, we are to presume the irritation of the spinal cord was connected. To the question whether the irritation of the spinal cord might have been an independent affection with which the disease in the kidney was casually coincident, the proper reply will be presently considered.

It would be too much to state that from a closer investigation of the history in each of the foregoing cases, circumstances might not have been discovered determining the real nature of the disease which was proceeding to the destruction of life. With the attention alive to the possibility of mistaking a disease in the kidney for an affection of the bones and fibro-cartilages of the spine, the risk of so serious an error in diagnosis will be lessened, if not completely removed.

Mr. Burnett who was house surgeon at St. Bartholomew's in 1829, drew up at my request the particulars of the following case.

A man aged 22 was admitted into the hospital on

account of retention of urine, the consequence of a severe gonorrhæa, the discharge of which he had stopped by injections. The bladder then lost its expulsive power. The sphincter ani became paralytic, and he lost in some degree the power of moving his lower limbs. He also complained of severe pain in the back, at the fifth lumbar vertebra. His countenance was flushed and marked by extreme anxiety. The tongue furred, pulse 120, quick and sharp. Abdomen tense and distended, and painful on pressure, especially in the hypogastric region. He distinctly traced the course of his pain from the bladder upwards to the left kidney, then across his loins to the right kidney. His lower limbs became remarkably flabby, and after some time, the loss of power in them was complete as far as motion was concerned, and nearly so in reference to sensation, for when firmly pinched, he could feel it only in the upper parts of the thighs. Some urine dribbled away, and his fæces passed involuntarily. The urine drawn off from the bladder was dark coloured, offensive, and mixed with mucus. Aperients, the warm bath, local abstraction of blood, Dover's powder, &c., were the remedies used, but with little effect. A slough formed in the skin upon the loins and right hip. The pulse became weak and the tongue dry and brown. The urine diminished almost to a complete suppression, and in about a fortnight from his admission into the hospital he died.

On examination of the body, the kidneys were

found larger than natural, and of a very soft consistence. Sections of them discovered, with the turgescence of the blood vessels, numerous minute depositions of pus throughout both the cortical and tubular parts. The infundibula and pelves were filled with pus mixed with a thick, ropy mucus. The mucous membrane lining the bladder was very vascular, and in part covered by coagulable lymph. There was no morbid appearance discoverable in any part of the brain or spinal cord.

In this case we observe the same phenomena as in the four cases previously related, namely, inflammation of the kidneys, with paralysis of the lower limbs, but occurring under such circumstances as were not likely to lead to an opinion that the symptoms originated in disease of the spine.

In the present month (May) the following case occurred in St. Bartholomew's Hospital under the care of Mr. Earle. A man, aged about 30, was admitted three weeks previously, on account of a gonorrhæa with phymosis, which was in progress towards cure. The inflammation in the urethra had subsided, but the discharge continued. Whilst in this state, as far as the local disease was concerned, and without any particular derangement of the general health, he was suddenly seized with paraplegia, which extended as high as the umbilicus. In the limbs the loss of motion was complete, and the loss of sensation nearly so. The functions of the brain were

unaffected. On being questioned, he stated that he had been suffering for a day or two from pain in the loins. The pulse was 85, and rather full. He was cupped in the loins, and free action of the bowels obtained by purgatives, but with no benefit. The urine flowed involuntarily and in considerable quantity. As, however, it was thought the bladder was distended, a catheter was introduced, and three pints of urine evacuated. In sixteen hours from the attack of paraplegia, the man suddenly fell back in his bed and died.

With the recollection of the case last related, I ventured to predict that in this instance we should find inflammation in the kidneys. The spinal cord was first carefully examined. There was found some turgescence of the vessels, both in the membranes and substance of its lumbar portion, and a few drachms of transparent fluid in the theca, but neither the turgescence of vessels, nor the effusion of fluid were sufficient to explain the paraplegia by pressure on the cord. The liver was enlarged and indurated. The other abdominal viscera, with the exception of the kidneys, were sound, and with no unusual turgescence of the vessels. Both kidneys were of so dark a colour as to be almost black; they were remarkably flaccid, and on sections being made of them, were found to be in every part gorged with blood. The mucous lining of the infundibula and pelves was dark coloured from the turgescence of the vessels. The coats of the ureters and the mucous

lining of the bladder were also very much more loaded with vessels than is usual. In the bladder was about a pint of urine. Some fluid was found between the membranes of the brain and in its ventricles.

When the circumstances of the foregoing case are viewed with the other cases which preceded it, it seems reasonable to believe there was a connexion between the occurrence of the paraplegia, and the inflammatory state of the kidneys evidenced by the great determination of blood to their substance. Had life endured for a longer period, it is probable there would have been suppuration in the kidneys. From the period of the occurrence of the paraplegia there was an inordinate secretion of urine, which is worthy of remark in connexion with the great determination of blood to the kidneys.

Dr. George Burrows furnished me with the particulars of the following case which occurred in St. Bartholomew's Hospital under the care of Dr. Latham. A man, aged 35, was admitted with incontinence of urine and severe pain in the back which had existed above two years. The pain extended from the first dorsal to the last lumbar vertebra, but it was most severe at the sixth dorsal vertebra, and was increased by pressure. Pain also extended over the front of the chest, and he breathed with difficulty. Both the urine and fæces were passed involuntarily. Pulse 80. The abstraction of blood from the back by cupping glasses was followed by no alleviation of

pain, but the breathing became easier, and he passed his stools with consciousness. The difficulty of breathing returned with drowsiness. Blood was taken from the temples with but little relief; with increasing difficulty of respiration, he gradually sunk.

A considerable quantity of serum was found beneath the arachnoid membrane covering the brain. Serum was also found in the theca vertebralis, and the pia mater covering the lumbar portion of the spinal cord was very vascular. In other respects the cord was healthy. The thoracic and abdominal viscera were healthy, with the exception of the kidneys. The pelvis and infundibula of the right kidney were dilated and distended by a thin puriform fluid, and in some situations the substance of the kidney had been absorbed, so that the infundibula extended almost to its outer surface. On stripping off the capsule of the kidney, the cortical substance presented a mottled appearance from the alternation of white and red spots, but with a predominance of the former. The left kidney was in a similar condition. Both ureters were dilated. The bladder contained a pint of thin puriform fluid similar to that found in the kidney. The muscular coat of the bladder was thickened.

In the preceding case we note, in connexion with an altered structure in the kidneys, pain extending down the spine with the loss of sensation and muscular power in the bladder and rectum, which it may be

presumed was the effect of irritation in the spinal cord.

In subsequent communications with which I have been favoured from Mr. Henry Hunt of Dartmouth, he states that he had attended four cases of disease in the kidney existing in connexion with symptoms of affection of the spine, and that "the peculiarities of these cases appear to him to be, first, that the symptoms simulate those of the incipient stage of inflammation of the vertebræ, thus there are the numbness, cramps, and inability of commanding the legs. 2dly, that there is a peculiar feeling of tight wires or cords in different directions through the limbs. 3dly, that with the first stage of the inflammatory attack in the kidney, the urine is not altered in quantity or quality, and consequently it was pronounced that no disease in the kidney existed until it was indicated by the mixture of pus with the urine." Mr. Hunt further alludes to the occurrence of cases of disordered uterus combined with loss of power in the lower limbs in such a degree, that the patients were wholly confined to their beds, adding that, by the subsequent and perfect recovery of some of these patients, it was clearly proved there had been no change of structure in the parts to which the symptoms referred as the source of irritation.

It can hardly be imagined that in the foregoing cases, the combination of disease in the kidneys with

irritation of the spinal cord and its nerves was simply a casual coincidence. The number of the cases which have been related, and the striking phenomena they exhibit, will scarcely permit such a mode of reasoning respecting them.

The cases which have been described exhibit disease, apparently beginning in the kidneys, and communicating an impression to the spinal cord and nerves issuing from it. For the further illustration of this subject, it may be well to allude to the instances, of far more frequent occurrence, in which irritation, commencing in the spinal cord, is communicated to the kidneys and other parts over which the spinal nerves exert a direct control.

It has been observed in the different orders of animals, that the complexity of the sympathetic nerve is proportionate to the developement of the spinal cord *, hence the opinion that the ganglia of the sympathetic, as it were, having their roots in the spinal cord, derive from it whatever influence they communicate to the parts upon which the nerves issuing from these ganglia are distributed. The lumbar ganglia of the sympathetic communicate freely with the spinal nerves, and from these ganglia, nerves issue to the renal plexus. From this arrangement of nerves, an explanation may be derived of the

* M. Weber Anatomia Comparata Nervi Sympathetici. Leipsiæ, 1817.

influence of the spinal cord upon the functions of the kidney; still more closely can we trace the influence of the spinal cord upon the bladder, rectum, and uterus, through the nerves which these organs receive directly from the sacral plexus of spinal nerves.

In the work of Ollivier on the spinal cord*, an experiment by M. Krimer is quoted to prove the direct influence of the spinal cord on the functions of the kidney. It consisted in dividing the spinal cord in its dorsal or lumbar portion, or in completely destroying either of these portions of the cord, and in either case, very remarkable changes immediately followed in the qualities of the urine; it became colourless and loaded with saline and acid principles, no such effects resulting from injury to the cerebrum or cerebellum. Ollivier further quotes the observations of M. Bellingeri that in sheep, inflammation of the spinal cord and its membranes is frequently followed by inflammation in the peritoneum and in the kidneys, and that the urine then becomes altered so as to resemble coagulated serum.

Dr. Prout, in his work on diseases of the urinary organs, has noticed the effect of irritation of the spinal cord on the functions of the kidney by referring to the old opinion that injuries of the back produce alkalescent urine, and adding, as the result of his own experience, that in a large proportion of cases, the

* Traité de la Moelle Epinière et de ses Maladies, 2 tom. 8vo.

deposition of the earthy phosphates from the urine has been distinctly traced to some such injury as a violent concussion of the spine occasioned by a fall from a horse. More severe injuries of the vertebral column, as fracture and dislocation, are, it is well known, frequently fatal from inflammation of the mucous coat of the bladder induced by the contact of a highly stimulating ammoniacal urine. A case of this kind occurred in St. Bartholomew's Hospital in the autumn of 1831, wherein there was fracture with displacement of the fifth and sixth dorsal vertebræ with a complete division of the spinal cord at this part, and consequent paralysis of the lower half of the body. From the day of the accident, a catheter was introduced into the bladder every night and morning. On the fifth day, the urine became greatly increased in quantity, strongly ammoniacal, very thick, and of so dark a colour that it was considered there must be a mixture of blood with it. The urine remained in this state to the death of the patient, which occurred on the 26th day, and upon dissection, the bladder was found almost completely deprived of its mucous lining, only a few shreds of it having escaped the processes of sloughing and ulceration. This case is further interesting from the continuance of life for nearly a month after the complete division of the spinal cord in its dorsal portion. Another case has subsequently occurred in the hospital of fracture and dislocation of the spine, implicating the eighth and ninth dorsal vertebræ, followed by paraplegia. On the fourth day, the urine began to have

the strongly ammoniacal odour and to present the same reddish brown colour as in the preceding case. Portions of this urine were submitted to chemical analysis, and reported to be strongly alkaline and mixed with blood, which gave to it the reddish brown colour. From the loss of the expulsive power of the bladder, it was necessary, from the first day, to remove the urine by a catheter, which was introduced several times a day, with the view of preventing the accumulation of urine in the bladder. The abdomen on the seventh day became tympanitic and tender, and on the tenth day he died.

On examination, the spinal cord opposite to the injured vertebræ, to the extent of an inch, and in its whole thickness, had completely lost its natural characters of colour and consistence, it was extremely soft and mixed with specks of blood. The kidneys were very vascular, but not otherwise injured. The bladder was very capacious and externally of a dark red colour from turgescence of its vessels. Nearly the whole of its mucous membrane was sphacelated. The small portion of it which had preserved its vitality, was thicker and more vascular than natural, but its surface was not abraded. The great omentum was found spread over the whole contents of the abdomen, and its surface was covered by a layer of coagulable lymph apparently the result of recent inflammation of the peritoneum.

It becomes an interesting point of enquiry whence

in the preceding cases, the blood was derived, which was found so abundantly, and continuously for several days, mixed with the urine. In the first case, the extensive separation of the mucous membrane of the bladder by slough and ulceration might indicate that the blood had been derived from this source, but in the case last related, there was no abrasion of the lining of the bladder, and it may be reasonably conjectured that from impaired nervous power in the kidney, blood unchanged may have passed from the renal arteries and veins directly into the uriniferous tubes. In other conditions of disease, this tendency of the kidney to throw off the red particles of the blood is frequently noticed, and in such a degree that the urine seems to consist entirely of blood. In his remarks on bloody urine, Dr. Prout has stated, that "when the blood is derived from the kidney, it is generally equally diffused throughout the whole urine: on the contrary, when derived from the bladder, the blood, for the most part, comes away in greater or less quantity at the termination only of the urinary discharge, the urine having previously flowed off nearly pure."* According to this diagnosis, the blood in the foregoing cases of injury to the spine was certainly derived from the kidneys.

It has been usually considered that in cases of injury to the spine, the urine becomes rapidly decomposed in the bladder, because this organ has lost its

* Diseases of the Urinary Organs, page 296.

nervous power, but from observations recently made by Mr. Smith of St. Mary's Cray, Kent, it would appear that the urine is ammoniacal before it passes into the bladder from defective action of the kidneys consequent on the irritation in the spinal cord*.

That the irritable uterus, described by Dr. Gooch, is, in some instances, dependent on irritation of the spinal nerves, may be inferred from the control over the affection to be obtained by the application of an issue to the loins; and the following case will present a striking example of an irritable and very painful condition of the bladder arising from the same cause.

Charlotte Sepping, æt. 25, was admitted into St. Bartholomew's Hospital with the following symptoms. Pain and tenderness in the side just above the crista of the ilium. Urine very scanty and high coloured, and voided with great distress. She stated that she had been ill about a month, and that at the beginning of her illness, after straining to empty the bladder, she felt a sensation of something giving way in her side, and immediately passed a teacupfull of blood. She had occasionally passed gravel. She suffered most severely from pain in the bladder, and required the constant introduction of the catheter. From the suspicion there might be a stone in the bladder, she was sounded by Mr. Abernethy, who pronounced there was no stone, but that the bladder

* Medical Gazette, Feb. 1832.

was very irritable and without the power of contracting. Every form of medicine that was likely to relieve the irritability of the bladder was tried, but ineffectually; her sufferings continued, the pain in the bladder was excessive, there was also severe pain in the lower part of the back, and the urine continued to be mixed with clots of blood. On examining the spine, acute tenderness was discovered in the spinous processes of the lower lumbar vertebræ, and an issue was accordingly made in this situation. As soon as the discharge from the issue commenced, her sufferings began to subside, the bladder became gradually tranquil, and in about a month, she left the hospital perfectly well, and it was afterwards ascertained that she had no return of the complaint.

Whatever opinion may be formed respecting the nature and treatment of this case, the facts of it are these, that from the multitude of remedies tried, no relief was obtained until the establishment of the issue in the loins. Then the bladder began to be tranquil, and eventually it regained a healthy condition without the employment of any other remedy. Mr. Abernethy considered the case as one of irritable bladder, dependent on irritation of the lumbar nerves, and the progress of it was carefully noted by Dr. Roupell, to whom I am indebted for the principal circumstances of its history.

In reflecting upon the phenomena of the first series of cases which have been detailed in this paper, it

might be thought improbable that irritation commencing in the kidney, or in the bladder, should be propagated through sentient nerves to the spinal cord, and that the impression should thence be transmitted through both the motive and sentient spinal nerves to the limbs, here occasioning an impairment both of sensation and of the power of motion. Some illustration of this subject seems to be furnished by the following researches of experimental physiology. If in an animal, "a few seconds after it has been deprived of life, the spinal cord be then divided in the middle of the neck, and again in the middle of the back, upon irritating a sentient organ connected with either isolated segment, muscular action is produced, that is to say, a sentient organ is excited, and an irritation is propagated through the sentient nerve to the isolated segment of the spinal marrow where it gives rise to some change which is followed by an impulse along the voluntary nerves to the muscles of the part."* In the instances which have been adduced, irritation commencing in the nerves of an internal organ, the kidney or bladder, has been transmitted through the spinal cord to the motive and sentient nerves of the limbs; but the same phenomena may occur in an opposite order, as in the case of a compound fracture or other severe injury of the lower extremity followed by retention of urine, from irritation arising in the anterior crural and ischiatic nerves, and communi-

* Outlines of Human Physiology, by Herbert Mayo, edit. 3d, p. 231.

cated through the lumbar and sacral plexuses of spinal nerves to the nerves of the bladder. Extending these views to cases of neuralgia, where there is no visible derangement of structure, or other local cause of excitement, it will always be difficult to determine whether the source of irritation be in the affected nerves, or in the central portion of the nervous system whence they are derived. In one case of neuralgia affecting the nerves of the thigh, after ten years of severe suffering, the patient died, and upon dissection, with a perfectly healthy condition of every other organ, the lumbar portion of the spinal cord on its posterior surface, was found covered with numerous large, but thin plates of cartilaginous substance, deposited in the arachnoid membrane. Here it must be, I conceive, difficult to state whether the morbid condition of the spinal cord bore the relation of cause or effect to the painful affection of the nerves of the thigh.

In a comprehensive view of the various phenomena associated with disease of the kidneys, it would be necessary to notice the marked influence of these organs upon the brain, the explanation of which is to be found in a paper recently read by Dr. James Wilson at the College of Physicians *. But in the present paper I have simply intended to illustrate by a variety of facts the reciprocal connexion between the kidneys and the spinal cord, of the importance of which there can be no doubt, when we consider that

* Medical Gazette, March 9th, 1833.

until by more exact observation, our diagnosis is improved, cases of paralysis in the lower limbs may be submitted to us, in which we may feel uncertain whether it is a disease of the spinal cord, or of the kidney, to which our treatment should be directed.

ON

# MALIGNANT TUMOURS,

## CONNECTED WITH THE HEART AND LUNGS.

BY JOHN SIMS, M.D.

PHYSICIAN TO THE ST. MARY-LE-BONE INFIRMARY.

READ JANUARY 22ND, 1833.

To illustrate the origin and growth of tumours, or adventitious formations in the various organs of the body, is at present an object exciting the diligent investigation of pathologists. Several valuable papers on tumours of a malignant character, have been published in the preceding volumes of the Transactions, and in other works, comprising instances of the disease in many of the tissues and organs: but comparatively few cases are recorded, where the heart was involved in the morbid growth.

The first two cases which I shall relate, belong to the class of Malignant Diseases, whose varieties have obtained the names of fungus hæmatodes, medullary sarcoma, soft cancer, &c. They present circumstances, in their history and progress, which will probably be interesting to the Society.

*CASE I.*

*Malignant tumour attached to the heart and lungs, and to the uterus and its appendages, with phlegmasia dolens of the right upper extremity.*

M. K. residing in Museum Street, a tall, well-formed young person, aged 23, had enjoyed tolerably good health, till near the period when her present disease was first noticed. She has recently suffered great difficulty of breathing, frequent cough, and considerable pain in the chest, with other symptoms, supposed to indicate a severe inflammatory affection of the lungs. The usual remedies were had recourse to for her relief, but the symptoms did not give way to the treatment adopted, and in a short time, others appeared of a more formidable character.

In addition to the foregoing symptoms, she mentioned, at the time of my first visiting her, the presence of some swelling, in the lower part of the abdomen, and on examination, several distinct and large tumours could be felt rising out of the pelvis, and probably connected with the sexual organs. Above the clavicle, and along the blood-vessel of the right side of the neck, there was a number of enlarged lymphatic glands of various sizes.

Her disease made a rapid progress, and in a short time, fluid began to collect in the cavity of the peri-

toneum, the tumours rose higher, and increased in magnitude; the lower extremities became edematous. The distress in breathing increased, and also the cough, but no expectoration of pus, or other signs of ordinary pulmonary tubercles presented themselves. A remarkable symptom now occurred: the sounds of the ventricles were perceived in their usual situation, but the impulse of one or both ventricles was equally distinct over a considerable part of the right side of the thorax anteriorly. Her right arm became painful and enormously swoln, presenting all the signs of phlegmasia dolens from inflamed veins.

From the greatly impeded respiration, the swelling of the abdomen, lower extremities, and right upper extremity, she was unable to vary the position from that of constantly lying on the back: in consequence of this, a large slough took place over the sacrum, which, added to the rapid progress of the disease in the thorax and abdomen, soon terminated her extreme sufferings.

On considering the great difficulty of respiration, the impulse of the heart peculiarly felt over the right side of the thorax, the tumours above the clavicle, and along the blood-vessels of the neck, the phlegmasia dolens of the right upper extremity, the tumours of rapid growth within the abdomen, and at the same time the absence of signs of ordinary disease of the lungs and heart, or, in other words, trying the diseased state of the thorax by seclusion,

the supposition was justifiable that a large tumour, probably of a malignant or fungoid character, was situated in the right side of the thorax, and attached to the lungs and heart. The result of the dissection proved the correctness of this opinion.

I need not relate the various means that were used to mitigate the sufferings of this young person. I may however remark, that needle punctures, made along the inner side of the upper extremity, materially relieved the pain and nearly reduced the swelling: for, as will be shewn, this was a true specimen of phlegmasia dolens, and I am not aware that this remedy is had recourse to in the analogous affection of puerperal women.

*Dissection.*

*Head* not examined.

*Thorax.*—On opening the thorax, a tumour of very considerable size was found imbedded in the right lung, it was closely attached to the great vessels at the base of the heart; it was moveable within the thorax.

On making sections through it, some portions appeared firm and fibrous, and others softer and brain-like. Its colour was of a dirty white, intermixed with streaks of a lead colour, apparently in the direction of its few blood-vessels. It closely involved the

bronchi and blood-vessels at the root of the right lung, and was firmly attached to the pericardium and vessels immediately issuing from the heart. Circumstances did not allow me to remove the tumour.

Nothing remarkable was observed in the left lung or the texture of the heart.

On dissecting out the right subclavian vein, the preparation of which is now before the Society, it was found to be filled with successive layers of fibrine, the product of inflammation, and the valves at its junction with the jugular are seen distended with this deposit.

The cavity of the peritoneum contained several pints of fluid. The viscera had a deep leaden hue, and there was a remarkably strong exhalation of carburetted hydrogen gas. There were several very large tumours attached to the uterus and its appendages, some of them the size of large oranges: they were soft, and their texture was exactly analogous to the tumour found in the lung.

---

### *CASE II.*

### *Malignant tumour affecting the right lung, and penetrating the left auricle of the heart.*

John Imber, æt. 43, of middle stature, broad chest, and generally athletic appearance, a baker.

About twelve months ago he applied to me, suffering under an attack of hæmoptysis, attended with impeded respiration, cough, and the symptoms commonly accompanying a loaded state of the blood-vessels of the lungs. The hæmorrhage was occasionally in large quantity, the dyspnœa and oppression were severe, but not such as to prevent his continuing his occupation, except during the occasional severity of his symptoms. I saw him in several of these attacks of hæmoptysis. He was very much relieved by general and local bleeding, digitalis, blisters, &c. together with a regulated diet.

I lost sight of him for several months until he was admitted into the St. Mary-le-bone Infirmary, Oct. 30, 1832.

His symptoms during this interval had undergone a material alteration for the worse. The difficulty of breathing and sense of oppression in the thorax were much increased: he had had several returns of hæmoptysis: his cough was occasionally very troublesome, with mucous expectoration. A considerable part of the right side of the thorax anteriorly is dull on percussion, and respiration is not heard by the stethoscope. The jugular veins are dilated to three times their usual size, and with part of the subclavian, present large tumours above the clavicles, alternately increasing and diminishing in size: his face is swoln: he complains of severe head ache: pulse sharp and ringing, but neither strong nor very frequent: little loss of flesh: bowels costive.

After his admission into the hospital, bleeding, blisters, tartar emetic ointment, evidently afforded him relief, and mitigated his sufferings: but this relief was transient. Digitalis and ipecacuanha were given, but the former was soon discontinued, in consequence of its narcotic effects.

Dec. 15. Difficulty of breathing and swelling of the face considerably increased. He was again relieved by small doses of mercury. A few days prior to his death, the dyspnœa was much increased, and all his symptoms were greatly aggravated; he died on the 28th.

A review of the history and progress of this patient's symptoms, the hæmoptysis, extreme difficulty of breathing, and latterly the turgid state of the jugular and subclavian veins, swoln face, head-ache, dullness of the right side of the thorax, the occasional continuance of hæmorrhage, the comparatively little loss of flesh, the absence of the signs of the common diseases of the chest, together with a recollection of the case of M. K., which I have just related, led to the belief that a tumour of considerable size, and of rapid growth, existed in the right cavity of the thorax, which was confirmed by dissection.

*Dissection* twenty hours after death :—

*Head.* — The aracnoid was more opaque than usual: there was a considerable quantity of fluid in the sub-aracnoid tissue, and the convolutions were

consequently separated from each other : about one ounce of fluid in the ventricles. Brain firm and natural.

*Thorax.*—On raising the anterior parietes of the thorax, a portion of the tumour, several inches in circumference, came into view on the right side. The tumours of the right lung occupied about two thirds of the capacity of the entire thorax. The diaphragm was lower than usual, the space for the left lung was encroached upon by the contents of the opposite side. The heart was situated several inches lower than usual, and pushed much beyond the mesial line.

The contents of the thorax, the liver and diaphragm were now removed from the body.

*Left lung.*—The left lung was free from adhesion, and the pleura of natural appearance ; there was much black matter deposited, and some emphysema. This lung was considerably indurated in some parts, which, on being cut into, consisted of extensive red hepatization. On a careful examination of the lung it was found to be quite free from the morbid growth contained in the other cavity of the thorax : the larger vessels and the bronchi were not engaged in the disease, although the tumours in the left auricle lay close to them.

*Right lung.*—Pleura much thickened. This lung occupied a considerable space, for the augmented

contents of the thorax had encroached upon the cavity of the abdomen. A great proportion of it was consolidated, apparently in consequence of old hepatization; in some parts the substance crumbled on the application of gentle pressure, this portion was of a dark or dusky red colour; there was pus in a few small cavities in the section. A small portion was comparatively healthy, and in degree fit for the purposes of respiration. The tumour was extensively attached to this lung, and portions had insinuated themselves between the larger vessels and the carnifications of the bronchi.

The *trachea* was so pressed upon by the tumour as to render the musculo-membranous part quite flat, and to expand the cartilages into a much wider arch. The bronchi, at the bifurcation, were much dilated; the right bronchus, with several of its subdivisions, passed directly through the tumour.

Most of the *bronchial glands* are healthy, some of them are shoved forwards, and situated on the surface of the tumour; others near the bifurcation are extended or flattened out over the softer parts of the tumour.

*Heart.*—The *pericardium* was much dilated at the base from several large tumours being developed within it.

*Right auricle.*—The tumour presses upon the

posterior part of the auricle so as to burst it inwards, and in one part a small tubercle has penetrated, the size of a split bean. The cavity of the auricle is much dilated.

The inferior *vena cava* was not connected with the diseased growth.

The jugular veins were enormously dilated.

The *descending cava* is much increased in length, and passes through the tumour; on laying open three or four inches of it, it appears to have identified itself with the diseased mass, and in some parts small flattened tubercles with long peduncles, of a very soft texture, grow from its sides. The structure of the vein was so much altered in this part, as to present the appearance of the channel being continued through the tumour, and the venous tissue absorbed.

*Right ventricle.*—Cavity contracted, tricuspid valve shortened, in other respects normal.

*Pulmonary artery.*—Valves perfect. The left branch natural. The right passes through the tumour, and is much dilated, but retains its texture; portions of the tumour follow its course.

*Left auricle*.*—The tumour in the interior of this

* Vide Plate III.

cavity has made rapid progress. The substance of the auricle being absorbed to a considerable extent, the tumour presents the same uneven surface as in other parts. There are two distinct tubercles near the origin of the right pulmonary veins, the size of hazel-nuts with narrow peduncles; one of these is attached within the auricle, the peduncle of the other is attached to the inside of one of the right pulmonary veins.

The *pulmonary veins* of the left lung are free. One of those belonging to the right lung is dilated; its coats are very thin, and on making an incision we come to the substance of the tumour almost immediately. It is difficult to trace the other; it passes into the centre of the tumour and is lost.

*Left ventricle* small; mitral valve perfect. The *aorta* is diminished in calibre, the valves are entire.

The *tumour* occupied about one third of the cavity of the thorax, extending from the anterior to the posterior walls; it is formed of several irregular lobes of various sizes. It is attached to the trachea, bronchi, heart, great vessels, and right lung; it is moveable within the thorax. It appears to have no capsule, but a thin membrane covers it; except where it is closely applied to some of the before mentioned tissues.

The consistence is various; the hardest parts resemble soft cartilage, or portions of a scirrhous

mamma: a considerable part is of a less firm consistence but of a solid character; a third part is almost pulpy and fluctuating, but retaining a cellular or fibrous appearance. On making a section of any part of the tumour a milk-white fluid escapes, resembling thick cream or mucilage of gum tragacanth, varying in quantity in proportion to the consistence of the part through which the incision is made. The firmest portions are contiguous to and within the lung; the softest between the trachea and bronchi, the great vessels, and attached to the auricles.

The appearance of the tumour both externally and internally very much resembles the oak-apple. The colour is almost entirely of a milk-white, in some places it is slightly tinged by the ramification of minute blood-vessels.

The number of blood-vessels is extremely small; in a great part none are visible carrying red blood. They are more numerous in the firmer parts attached to the lung.

One division of the tumour is very closely attached to the lung; and this is the firmest portion of it, and has the most blood-vessels ramifying through it; in other parts the tumour is easily separated from the lung, and a membrane resembling the pleura appears to intervene.

On making sections in various directions into the

firmer portion of the tumour, or that fixed to the lung, it presents a firm fibrous appearance; in the softer parts what have been termed cells, filled with the thick fluid, are very evident.

*Abdomen.*—The liver was very large and of the nutmeg appearance. No morbid alteration could be detected in the alimentary canal, spleen, pancreas, great vessels, absorbent glands, or urinary organs.

The model executed by Miller, and the drawings by Perry, now exhibited to the Society, give an exact representation of the disease.

The tumours described in the preceding cases, belong to the class of diseases ordinarily termed malignant.

The names of fungus hæmatodes, medullary sarcoma, cerebriform tumour, soft cancer, &c., have been by many pathologists applied to them; whilst others have attempted to appropriate some of these names to distinct species of tumour; but the marks usually relied upon do not appear sufficient to warrant such a distinction.

In the case of M. K. several tissues and organs were affected with similar disease; in that of Imber, there was but one mass of disease, and the organs remote from the thorax did not participate in the same morbid change.

In both cases the disease from its commencement appears to have increased rapidly; and although "tumours of this description are, in the present state of our knowledge, essentially incurable, yet it is highly important" that pathologists should direct their attention to the investigation of the signs by which they may, with some degree of probability, be supposed to exist during life. There are some striking symptoms adverted to in the foregoing cases, which led to the formation of a correct opinion of the character of the disease in these two instances, and which a more extensive series of cases might possibly confirm. If any advance can be made in a knowledge of the distinguishing marks of these tumours, the injurious and unavailing measures too frequently adopted, may be guarded against, and remedies which tend to palliate will be more diligently applied, and with a greater prospect of alleviating the extreme sufferings of our patients.

The immense tumour found in the thorax of Imber, does not consist in an alteration of any material structure, but is a new formation or adventitious growth.

The organ or tissue in which it commenced, may admit of various explanation. My impression is that it began in the lung, in the vicinity of the great vessels, and subsequently extended itself in other directions. In the firmest part, where the blood-vessels going into it are most numerous, the tumour

adheres intimately to the lung. In this part, either in the substance of the lung or in the filamentous tissue connecting it with the adjoining parts, the tumour most probably originated, and the more soft and pulpy portions connected with the heart and great vessels may have been subsequently, and more rapidly formed.

We know nothing respecting the primary steps in the formation of tumours, but with regard to their mode of growth and propagation, a considerable advancement has been made.

On making sections of the firm parts of this tumour, very firm fibres enveloping a dense substance were observed, nearly resembling the sections of a cancerous mamma, and on dividing the pulpy parts, the usual appearances of cells was noticed, containing a thick cream-like fluid.

It appeared difficult to trace any approach to regularity in the formation of the several lobes of this tumour, but a minute inspection of it tends to favour the views proposed by Dr. Hodgkin, in his able and philosophical paper on adventitious structures.

In another case in which small tumours of cartilaginous hardness were found in several organs of the body, the appendix to the right auricle contained a

mass of a similar kind, of unusual size. I shall relate it in addition to the foregoing cases.

### *CASE III.*

*Cartilaginous tumours in most of the tissues and organs, and involving the right auricle of the heart.*

Sarah Fyfe, æt. 58, married; the mother of one child; admitted into the Infirmary, June 25, 1831. She complains of pain over the abdomen, which is rather tumid and hard in the hypogastric region: constant and gnawing pain through the hips: urine scanty and high coloured, and great pain in emptying the bladder: no discharge from the vagina: surface of the body bloodless, extreme emaciation and debility. She has several small indurated moveable tumours situated in the skin covering various parts of the body.

About six months ago, whilst attending to domestic duties she was attacked with profuse discharge of blood by the vagina: this continued about a week, and was relieved by the remedies used. She had a fall about six weeks prior to this attack, but suffered little at the time from it. Since the above period, her health has rapidly declined, though she has had no return of the hæmorrhage. Her previous health had been delicate.

27th. An examination per vaginam discovered round indurated masses about the os uteri.

The remedies which were used in some measure mitigated her sufferings; she, however, gradually became weaker, and died on July 4th.

July 5th. *Dissection.*—On dividing some of the small tumours on the surface of the body, they were of a cartilaginous hardness and uniform in texture.

*Head.*—A small quantity of fluid in the subaracnoid tissue and in the ventricles. Brain firm and remarkably pale: little or no blood appeared in the central or superficial vessels. A small indurated tumour in the falx of the dura mater. A tumour of a similar kind was situated in the right half of the pituitary gland, the size of a large pea. The carotid arteries in their canal were dilated and ossified. The posterior clynoid processes were thin and eroded, probably from the pressure of the arteries and the tumour of the pituitary gland.

*Thorax.*—Many tubercles were situated beneath the anterior part of the pleura costalis. Numerous similar tubercles were found on the pleuræ pulmonales, throughout the substance of the lungs. The lungs were edematous and studded with small miliary tubercles, and in the upper part of the right lung there were several cavities. A considerable quantity of fluid was found in the cavities of the pleuræ.

*Heart.*—Slight hypertrophy: the left ventricle was dilated and softened.

*Right auricle.*—In the appendix to the right auricle there was a mass of adventitious deposit, the size of a small walnut.

*Abdomen and Pelvis.*—The liver and pancreas contained many tubercles of the character before mentioned: these with the other viscera of the abdomen, were, in other respects, natural.

*Uterus.*—The cervix was enlarged and indurated, and there was a small tumour projecting from the fundus into the cavity.

The filamentous tissue between the bladder and uterus was a good deal thickened and indurated, and of a similar appearance to that of the neck of the uterus.

*Bladder.*—The mucous membrane was generally vascular: about the anterior part of the neck large portions of the mucous membrane were detached, leaving a rough and vascular surface.

---

Since this paper was read to the Society I have met with another case of fungoid disease in the left lung.

*CASE IV.*

*Malignant tumour seated in the left lung. Extraordinary morbid change in the Pons Varolii.*

Charles Jones, æt. 64, has been suffering hemiplegia of the left side about twelve months, and in consequence of the increase of cerebral disease was admitted into the St. Mary-le-bone Infirmary, July 23, 1833.

He has been subject to cough and other pulmonic symptoms for several years, but our attention was not at this time specially directed to the state of his chest, owing to the urgency of his other symptoms. Remedies afforded him but partial relief, and he died on the 6th of August.

Dissection 30 hours after death. *Brain.*—An extraordinary morbid alteration was observed in the pons varolii: the particulars of the dissection of the brain, together with the symptoms referrible to it, I intend to relate on a future occasion.

*Thorax.*—In the upper portion of one of the lobes of the left lung was situated a tumour, the size of a small orange, it was imbedded in the centre of the lung, in the immediate vicinity of the bronchi and great vessel. Its surface was uneven with numerous rounded eminences. On making a section of the tumour, it proved to be of the fungoid or medullary character, and was composed of smaller lobules,

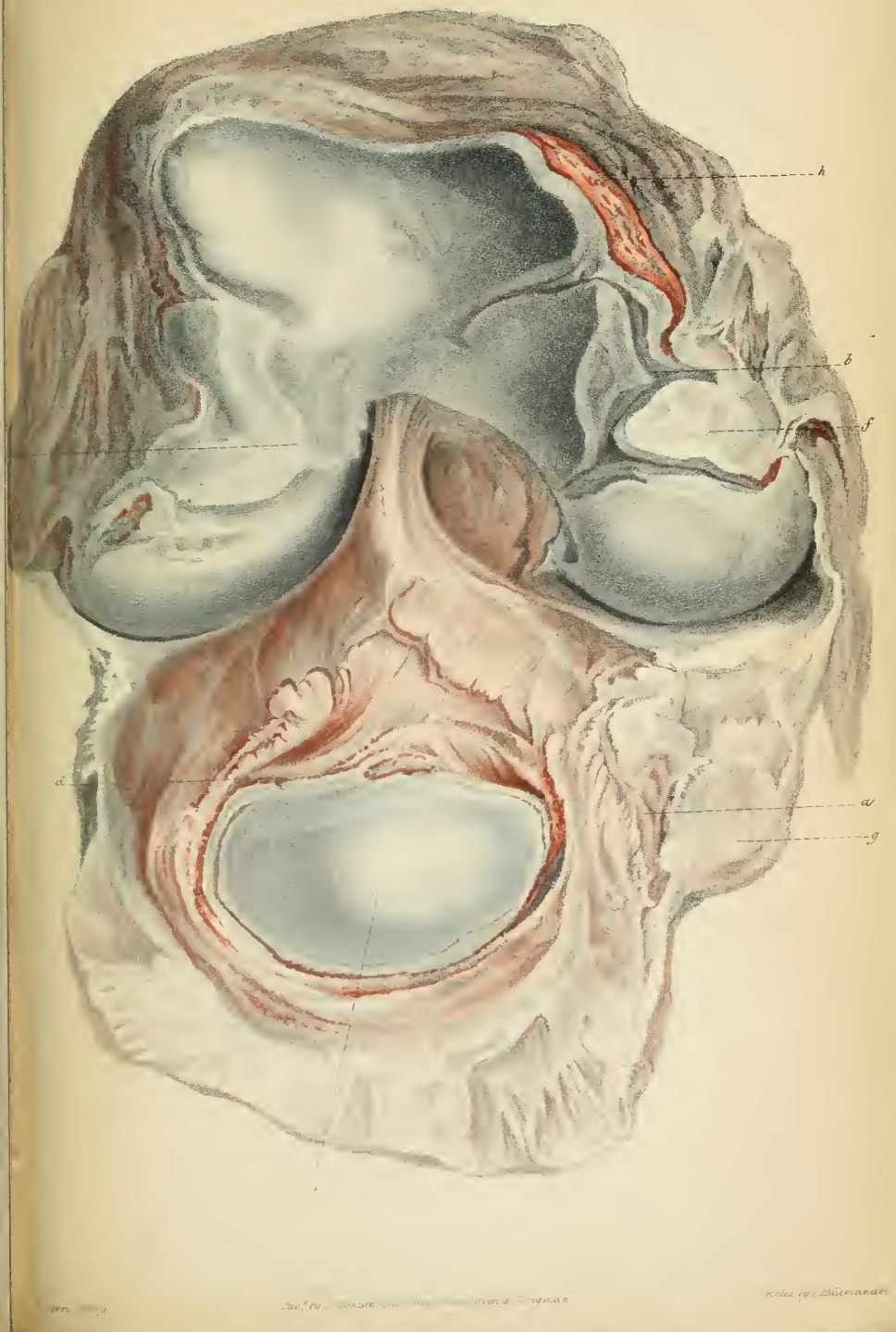
in some parts presenting a high degree of vascularity. The lungs were edematous and loaded with blood. Traces of chronic pneumonia, in various stages, were observed, with copious infiltration of greenish fluid into the pulmonary tissue, in some places resembling gangrenous patches. There was extensive solid grey hepatization near the root of the left lung, where the tumour was situated.

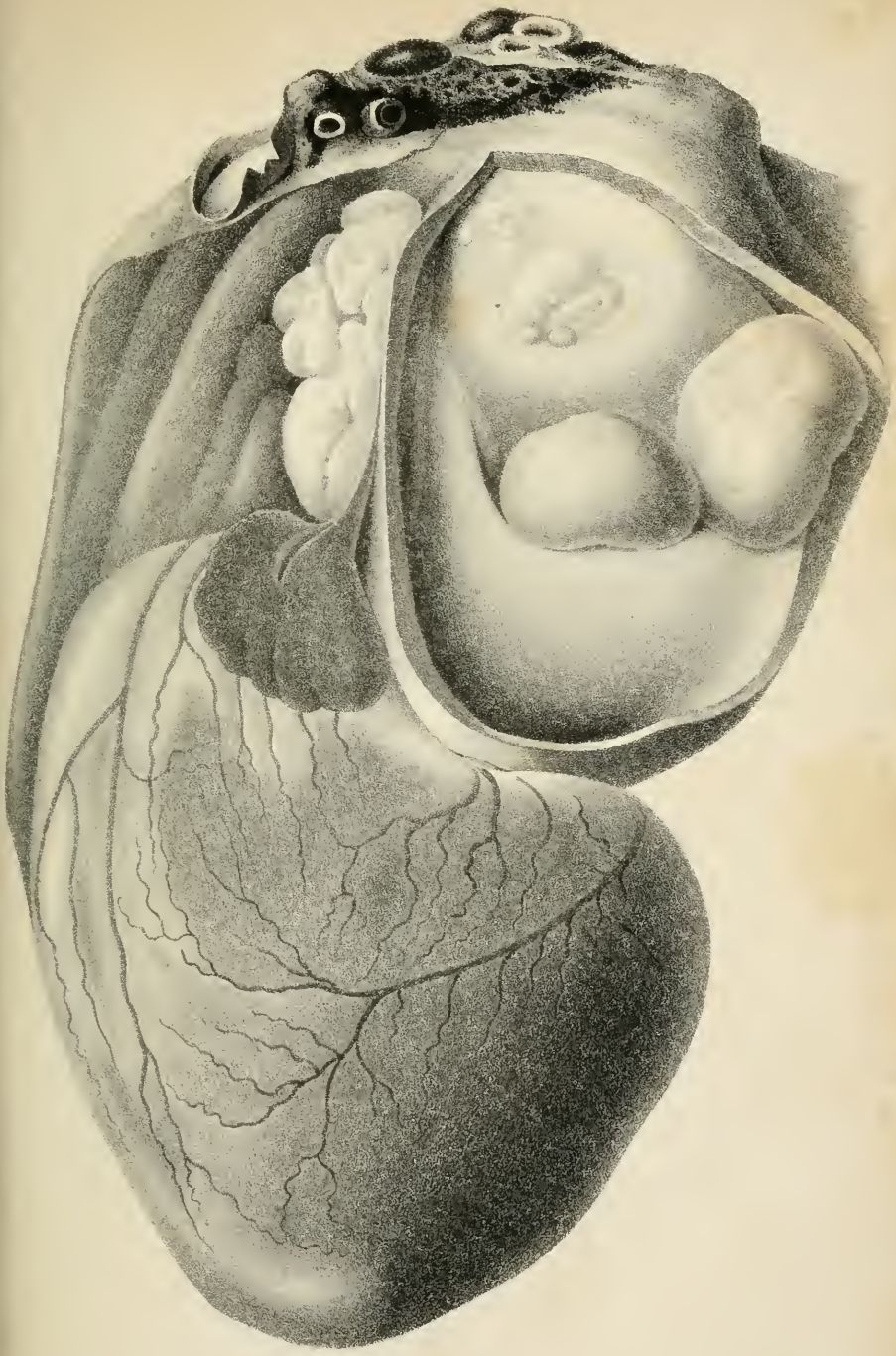
Heart flabby, cavities and valves natural.

In the abdominal viscera no morbid change was noticed, except a large scrotal hernia, in which the intestine was confined by strong lengthened bands of membrane.

END OF PART I.

G. Woodfall, Printer, Angel Court, Skinner Street, London.


h
b
f
f
d
a
g



# INDEX

TO

# VOLUME EIGHTEENTH.

---


A. Page

Æsophagotomy, case of, with remarks, by *Mr. Arnott*..... 86
Abscesses, sloughing, connected with the liver, cases of by *Mr. Cæsar Hawkins*..... 98

B.

*Bright, Dr.*, cases and observations on disease of the pancreas and duodenum..... 1
Bony union of the neck of the femur fractured within the capsule; case by *Mr. Stanley*..... 256

D.

Duodenum, cases and observations connected with disease of, by *Dr. Bright*..... 1

E.

*Elliotson, Dr.*, on the discharge of fatty matters from the alimentary canal and urinary passages..... 67
———— additional facts respecting glanders in the human subject..... ..... 201
Encysted tumours of the liver, remarks on, by *Mr. Cæsar Hawkins*..... 98

F.

Page
Fatty dejections, possibly connected with disease of the pancreas and duodenum ..... 51
Fatty matters, on the discharge of from the alimentary canal and urinary passages, by *Dr. Elliotson* ..... 67

G.

Glanders in the human subject, additional facts respecting, by *Dr. Elliotson* ..... 201

H.

*Hawkins, Mr. Cæsar,* cases of sloughing abscesses connected with the liver, with remarks on encysted tumours of that organ ..... 98
——— case of aqueous encysted tumour of the kidney, with a supernumerary gland attached to it. 175
Hydatid encysted tumour in the liver; cases of, by *Mr. Cæsar Hawkins* ..... 148

J.

Jaundice, case of, supervening on diabetes; the common bile duct obliterated by diseased pancreas; copious fatty discharge from the bowels; by *Dr. Bright* ..... 3
——— case of, with fatty discharge from the bowels and contracted duodenum, by *Mr. Lloyd* ..... 57
Joints, on the ulcerative process in, by *Mr. Aston Key* ..... 208

K.

*Key, Mr. Aston,* on the ulcerative process in joints ..... 208
Kidney, aqueous encysted tumour of, by *Mr. Cæsar Hawkins* ..... 175

Page

Kidneys, disease in the, observations on, in connexion with irritation of the spinal cord, with cases, by *Mr. Stanley*..... 256

L.

*Langstaff, Mr.*, case of medullary sarcoma, with account of its dissection..... 250

*Lloyd, Mr.*, case of jaundice with fatty discharge from the bowels and contracted duodenum..... 57

M.

*Macilwain, Mr.*, account of two cases of deep seated nævus, treated by setons..... 189

Malignant tumours, connected with the heart and lungs, by *Dr. Sims*..... 281

Medullary sarcoma, case of, with its dissection, by *Mr. Langstaff*..... 250

Members of the society, list of..... vi

N.

Nævi, deep seated, treated by seton, two cases, by *Mr. Macilwain*..... 187

Neck of the femur, fracture of within the capsule uniting by bone, case by *Mr. Stanley*..... 256

O.

Observations connected with disease of the pancreas and duodenum, by *Dr. Bright*..... 1

P.

Pancreas, case of, disease of, causing obliteration of the common bile duct; with fatty matter in the dejections. 12

Plate II., explanation of..... 224. 239

—— III., explanation of..... 290

S.

Page

*Sims, Dr.*, on malignant tumours, connected with the heart and lungs ..... 281

*Stanley, Mr.*, case of bony union of a fractured neck of the femur, in a young subject ..... 256

———— on irritation of the spinal cord and its nerves, in connexion with disease in the kidneys, with cases.. 261

T.

Tumour, aqueous encysted, of the kidney, case of, by *Mr. Cæsar Hawkins* ..... 175

Tumours, encysted, of the liver, with cases, by *Mr. Cæsar Hawkins* ..... 98

U.

Urinary passages, discharge of fatty matters from the, by *Dr. Elliotson* ..... 67

V.

Vascular tumour, deep seated, treated by setons, two cases, by *Mr. Macilwain* ..... 187

ERRATA.

Page 283, last line, *for* "seclusion", *read* "exclusion".
—— 289, line 11, *for* "carnifications", *read* "ramifications".
—— 290, line 1, *for* "burst", *read* "thrust".

G. Woodfall, Printer, Angel Court, Skinner Street, London.

# MEDICO-CHIRURGICAL TRANSACTIONS.

## GENERAL INDEX

TO THE

## FIRST EIGHTEEN VOLUMES.

LONDON:
PRINTED FOR THE SOCIETY.
W. CLOWES AND SONS.

1836.

*Extract from the Minutes of a Council of the Royal Medical and Chirurgical Society, held February 4th,* 1836.

" Resolved unanimously, that the thanks of the Council be offered to Mr. J. F. South, for the trouble which he has taken in making an Index to the first eighteen volumes of the Society's Transactions, and that it be immediately published, with his name affixed to the title-page, as a memorial of this service."

# GENERAL INDEX

TO THE

# FIRST EIGHTEEN VOLUMES.

## PART I.—PERSONAL NAMES.


Abernethy, John, i. 27
Albers, J. A., M.D. vii. 284; viii. 507; ix. 26
Alderson, James, M.D. xvi. 78
Allan, John, xii. 366
Armiger, T. J., ii. 242
Arnold, ——, M.D. ix. 31
Arnott, David G., xiii. 281.
Arnott, James M., xii. 351; xv. 1; xviii. 86

Babington, Benjamin G., M.D. xvi. 46—293
Babington, William, M.D. i. 83
Bacot, John, vii. 373
Badeley, M.D. ix. 234
Bampfield, R. W., v. 32
Barlow, James, xvi. 19
Barlow, W. R., xvii. 115
Barnes, S., iv. 316; vi. 583
Baron, John, M.D. viii. 51
Barry, John T., x. 231
Barton, Smith, Professor, vii. 143
Bateman, Thomas, M.D. ii. 31; v. 225; ix. 220
Bell, Charles, iii. 171; iv. 335; xii. 213
Bell, Thomas, x. 38
Berzelius, J., M.D. iii. 198
Birch, W., xiii. 357
Birt, George, xii. 243
Black, Samuel, vii. 70
Blagden, Richard, viii. 224
Blane, Sir Gilbert, Bart. M.D. iii. 1; iv. 89—466; vi. 141—490; x. 315; xi. 110—157
Blizard, Thomas, i. 169
Blundell, James, M.D. ix. 56; x. 245—296
Boggie, John, vii. 338
Bostock, John, M.D. i. 47; ii. 161 iii. 107—146; iv. 38—53—73; v. 80; ix. 1; x. 77—161; xii. 94; xiii. 73; xiv. 424—437; xv. 154; xvi. 72
Brayne, T., xii. 255
Bree, Robert, M.D. ii. 84; iii. 155
Breschet, G., M.D. ix. 433; xi. 446; xiii. 33
Breton, P., xi. 301—310
Bright, Richard, M.D. xiv. 424; xviii. 1
Brodie, B. C., iv. 207; v. 239—387; vi. 318; vii. 195; xiv. 325; xv. 177; xvii. 239
Broughton, S. D., xii. 99
Bruce, N., ix. 249
Brulatour, ——, M.D., xiii. 513
Burmester, M. A. xi. 384
Burnett, William, M.D. xiii. 202
Burrows, ——, ii. 52
Bush, Francis, ii. 102

Calvert, Robert, M.D. vi. 1.
Cansardine, H. H., ix. 181
Carson, James, M.D. xi. 165
Chamberlaine, Richard, jun. vi. 128
Chapman, John, ix. 194
Chapman, Thomas, xii. 243
Cheston, Richard Brown, M.D. v. 104
Chevalier, Thomas, i. 157; ii. 63—200; iii. 41—80—102; iv. 322; v. 93; vi. 151; x. 400
Chevalier, Thomas William, xiii. 17—61
Chisholme, Colin, M.D. iv. 35
Clark, John, M.D. v. 67
Coates, Henry, x. 312; xi. 270—277
Coley, James Millman, v. 76

Collier, Charles, vii. 107—136
Cooke, William, ii. 17
Cooper, Astley, i. 1—222; ii. 249—322; iv. 204—425; viii. 427; xi. 349—440; xii. 235—381
Cooper, Samuel, viii. 206; xvi. 320; xvii. 51
Copeland, T., iii. 191
Corbyn, Frederick, xi. 110
Cormick, John, xii. 359
Crampton, John, M.D. viii. 228
Crampton, Philip, vii. 341; xvi. 157
Creagh, P. T., ii. 307
Crossing. T., xvi. 344
Cummings, John. xii. 70
Curry, James, M.D. iii. 348
Cutting, John Henry, M.D. ii. 264

Dalrymple, William, vi. 111
Davis, David D., M.D. xii. 419
Davy, John, M.D. x. 89
Delagarde, Philip Chilwell, xiii. 163
Denmark, Alexander, iv. 48; v. 24; vi. 296
Dewar, Henry, M.D. vii. 482
Dickinson, W. B., xi. 61
Dickson, David J. H., M.D. vii. 448
Dobson, R., M.D. xiv. 206
Dowler, Thomas, xii. 86
Dundas, David, i. 37
Dunn, John, x. 396; xi. 337; xii. 167

Earle, Henry, iii. 59; v. 96; vi. 82; vii. 173—411—427; x. 410; xi. 69—211; xii. 32—190—268—296; xiii. 516
Elliotson, John, M.D. xii. 543; xiii. 26—51—232—451; xv. 161; xvi. 171; xviii. 67—201
Evans, Herbert R., xvii. 507.

Farre, J. R., M.D. iii. 84—323
Featherton, J., ii. 58
Fenwick, John Ralph, M.D. ii. 24
Fergusson, William, M.D. ii. 180; iv. 1; viii. 108—585
Forbes, C. F., M.D. xiii. 293
Forster, Thompson, i. 99; v. 232
Fryer, ——, iv. 330.

Gervis, Henry, ii. 234
Gibbs, Harry Leake, M.D. xii. 531
Gilder, S. xii. 186
Gillman, James, xii. 8
Gilpin, Joseph D. A., M.D. v. 303
Gooch, Robert, M.D. xii. 152
Goodlad, William, vii. 112; viii. 582
Gordon, James Alexander, M.D. xiii. 12
Gore, ——, xii. 570
Graham, Robert, M.D. v. 287
Graham, Thomas, vi. 601
Green, J. H., xii. 46
Gregory, George, M.D. xi. 258—296—299; xii. 324; xiii. 254
Gumprecht, T., M.D. vi. 608
Guthrie, George James, vii. 330; viii. 550; xiii. 103.

Hall, Marshall, M.D. x. 166—423; xii. 1; xiii. 121—189; xvii. 250
Hammond, ——, xii. 308
Harkness, J., ii. 284
Hawkins, Cæsar, xv. 432; xvii. 121; xviii. 98—175
Henry, William, M.D. ii. 118; v. 442; x. 125
Hewitt, M., xiii. 264
Hewlett, Thomas, xvii. 226
Hey, William, vii. 541
Higginbottom, John, xiii. 189
Hodgkin, Thomas, M.D. xv. 265; xvii. 68
Hodgson, ——, iv. 294
Holberton, T. H., xvi. 63
Holland, Henry, M.D., viii. 317
Howship, John, vi. 263; vii. 387—581; viii. 57, 515; ix. 143; x. 176; xvii. 423
Hunt, William J., M.D. xii. 27
Hunter, John, jun., xiii. 88
Hutchinson, A. C., M.D. ii. 104; iv. 188; v. 278; ix. 443; xi. 235—346; xiv. 213; xv. 435; xvi. 94
Hyslop, John, vi. 108.

Ireland, J. P., ii. 392.

Jacob, Arthur, M.D. xii. 487
James, J. H., viii. 434; xiii. 152; xvi. 1
Jenner, Edward, M.D. i. 263—269
Johnson, James, M.D. xiii. 212
Jones, Edwin Godden, M.D. vii. 1.

Keate, Robert, x. 278
Kennedy, ——, M.D. ix. 240
Kerrison, Robert Masters, M.D. xii. 315
Key, Chas. Aston, xiii. 1; xviii. 208.

Lane, Charles, viii. 201
Langstaff, George, iii. 277; vii. 437; viii. 272—502; ix. 297; xii. 372; xiii. 487; xvi. 128; xvii. 63

Lara, B., M.D. xii. 64
Lawrence, William, ii. 382; v. 165; vi. 156—209—221; viii. 306—490; ix. 216; xiii. 387—420; xiv. 1; xvi. 58—367; xvii. 1—58; xviii. 250
Lee, Robert, M.D. xv. 132—369; xvi. 377; xvii. 473
Lloyd, E. A., xviii. 57
Locher, J. J., M.D. ix. 11; xi. 182
Lyford, Giles, xi. 97.

Mac Arthur, Duncan, M.D. vii. 466
Macfarlane, John, M.D. xvi. 237
Macgregor, Patrick, v. 435
Macgrigor, Sir James, M.D. vi. 381
Macilwain, George, xviii. 189
Marcet, Alexander, M.D. i. 77—132; ii. 73—215—340; iii. 310—342; vi. 618—663; vii. 228—551; viii. 594; x. 147; xii. 37—52
Martineau, Philip, M., xi. 402
Martin, P. J., ix. 52
Martin, Thomas, iv. 45
Maunoir, J. P., vii. 257—301; ix. 364—382
Mayo, Charles, xi. 55; xii. 12; xvi. 359
Mayo, Herbert, xi. 104
Merriman, Samuel, M.D. iii. 47—123; x. 50; xiii. 338—340
Meyer, N., M.D. xi. 201
Mitchell, John, iv. 25
Money, William, v. 236
Moore, James, i. 112
Morel, William Richard, vii. 161
Morrah, Michael, ii. 260
Musgrave, A., M.D. ix. 93

Nicholl, Whitlock, M.D. vii. 477; ix. 359
Norman, George, x. 94; xiii. 348

Odier, Louis, M.D. vii. 211
Orton, John, xiii. 605
Owen, Richard, xvi. 219.

Park, H., ii. 296
Parkinson, John, ii. 291; iii. 57
Pearson, John, viii. 252
Pearson, Richard, M.D. i. 23
Percival, Edward, M. D. iv. 17—297
Philip, A. P. Wilson, M.D. iii. 290; vii. 499; xii. 396
Phillips, Edward, M.D. vi. 65—124; ix. 427
Pope, John, xii. 344; xiii. 97
Porter, William Henry, xi. 414
Post, ——, M.D., ix. 185
Pout, G., xii. 183
Powell, James, xii. 537
Price, David, xi. 274
Prout, William, M.D. viii. 526; ix. 472; x. 389; xii. 43

Quadri, M.D. x 16
Quarrier, D., M.D. viii. 1.

Roberts, William, xi. 100
Roberts, James Watson, M.D. vi. 135
Robinson, James, x. 27
Rogers, ——, M.D. xiii. 283
Roget, Peter Mark, M.D. ii. 136; vii. 290
Roots, Henry Shuckburgh, M.D. xii. 310
Rose, Thomas, viii. 349; xiv. 251
Rowlands, Griffith, ii. 47
Rumsey, Nathaniel, ix. 389—485.
Russell, William, M.D. xi. 445

Salmon, Edward, xi. 398; xii. 95
Salter, T., x. 218; xv. 186
Scott, H., M.D. viii. 173
Scott, P. N., xi. 392
Seymour, Edward J., M.D. xiv. 222
Shaw, John, x. 339; xii. 105—461—481
Shaw, Alexander, xvii. 434
Sims, John, M.D. xviii. 281
Smith, Richard, xi. 1
Smith, ——, M.D., xiii. 373
Soden, John Smith, vii. 536
Somerville, William, M.D. v. 340; vii. 154
Sommé, ——, M.D., xvi. 36
South, John F., xii. 76
Southey, H.H., M.D. vi. 209
Stanger, Christopher, M.D. i. 13
Stanley, Edward, vii. 323—404; viii. 12; xii. 10; xiii. 504; xviii. 256—260
Stansfield, Josias, vii. 103
Stevens, W., v. 422
Stewart, D., M.D. iv. 358; v. 144
Swan, Joseph, ix. 422; xi. 330; xii. 520.

Thomas, Charles, M.D. xiii. 330
Thomas, H. L., i. 123; vi. 98
Thomson, Anthony Todd, M.D., xiii. 170—298
Titley, John Maddow, M.D. vi. 73
Travers, Benjamin, ii. 1; iv. 278—435; v. 391; vi. 632; viii. 231; ix. 405; xv. 195; xvii. 300

Travers, Francis, M.D. vii. 150
Tyrrell, Fred., xiii. 290.

Vetch, John, M.D. xvi. 356
Vincent, J. P., x. 212; xii. 247
Vose, James, M.D. ix. 354.

Wall, Martin, M.D. ii. 115
Wallace, William, xiii. 469; xiv. 286
Wardrop, James, iv. 142—309; v. 129—358; vii. 278; viii. 246; ix. 199; x. 1—273; xii. 203—205; xiii. 217
Ware, James, v. 255
Watt, Robert, M.D. v. 1
Weekes, J. N., xiv. 447
Welbank, Richard, xi. 361; xiii. 563
Wheelwright, Thomas, vi. 374
White, Anthony, i. 276; xiii. 444
Wilson, James, i. 175
Wilson, Thomas, v. 156
Windsor, John, x. 358
Wood, Kinder, vii. 84—237—264; ix. 38
Wood, John, xvii. 138

Yelloly, John, M.D. i. 181; iii. 90; iv. 371; vi. 574; xii. 565; xv. 339
Young, George William, i. 234.

## PART II.—REFERENCES TO SUBJECTS IN GENERAL.


*Absorbent Glands*, on some morbid appearances of (T. Hodgkin, M.D.), xviii., p. 68.

*Acupuncture in Rheumatism* (J. Elliotson, M. D.), xiii. 467.

*Adventitious Structures*, on the anatomical characters of some (T. Hodgkin, M. D.), xv. 265.

*Albuminous Fluids*, synopsis of (J. Bostock, M.D.), iv. 73.

*Amputation* at shoulder joint, by A. Cooper (J. H. Cutting, M.D.), ii. 264—*A.* of part of the tarsus and metatarsus and preservation of the shape and usefulness of the foot (J. Dunn), xi. 337—Note on same, (A. C. Hutchison) 346—*A.* at hip-joint (J. Orton), xiii. 605.

*Anæsthesia*, history of a case of (J. Yelloly, M.D.), iii. 90.

*Anastomosis* of the arteries at the groin after ligature of the iliac artery for aneurism (A. P. Cooper) iv. 425.

*Aneurism* of Aorta which burst into œsophagus (S. Cooper) xvi. 339—*A. Carotid* (A. P. Cooper), operation, death, i. 1—*ib.* operation successful (A. P. C.), i. 222—*ib.* operation successful, but died on the 35th day (J. P. Vincent), x. 212—*ib.* operation successful (G. Lyford), xi. 97—*ib.* operation successful, but died seventy days after, from hæmorrhage of upper end of the artery, the aneurismal sac having been opened in consequence of inflammation (H. Coates), xi. 277—*ib.* in which artery tied above tumor, and succeeded (J. Wardrop), xiii. 217—*A. Axillary* operation performed below clavicle, successfully (R. Chamberlaine, Jun.), vi. 128—*ib.* operation performed above the clavicle, died on 13th day, after repeated hæmorrhage (C. Mayo), xii. 12—*ib.* operation performed above clavicle successful (H. L. Gibbs, M.D.), 531—*ib.* operation successful (C. A. Key), xiii. 1—*ib.* successful (T. Crossing), xvi. 344—*ib.* successful (C. Mayo), 359—*A. Brachial*, for which subclavian tied successfully (—— Post, M.D.), ix. 185—*ib.* for which a ligature applied on brachial artery, and removed 50 hours after with success (B. Travers), ix. 405—*A. External iliac*, for which femoral artery and subsequently aorta tied, case terminated fatally (J. H. James), xvi. 1—*ib.* in which common iliac artery tied with catgut came away on eighth, and patient died of hæmorrhage on tenth, day (P. Crampton, M.D.), 157—*A. Gluteal*, in which internal iliac artery tied with success (W. Stevens), v. 422—Dissection of same. *See* Dissection.—*A. Inguinal* cured by tying external iliac artery (J. S. Soden), vii. 536—*ib.* successful (E. Salmon), xi. 398.—*ib.* (E. S.), xii. 95—*ib.* cured after the use of compression (J. A. Albers, M.D.), ix. 26—*A. Femoral* cured by ligature of external iliac artery (C. Collier), vii. 136—*A. Popliteal* ligature applied on femoral for 27 hours failed, subsequently cured by ligature in usual manner (B. Travers), ix. 409—*ib.* ligature removed 24 hours after operation succeeded (W. Roberts), xi. 100—*ib.* circumscribed observations on the symptoms attending the change of a, into the diffused state (S. Cooper), xvi. 320—*ib.* case of, attended with some unusual circumstances, supposed previous to amputation to have been sarcoma, but on dissection appeared to have been a popliteal aneurism of the usual kind, but had become diffused by bursting of sac (W. Lawrence), viii. 496.

*Aneurism by Anastomosis* in the orbit cured by ligature of the common carotid artery (B. Travers), ii. 1—*ib.* cured in same manner (W. Dalrymple), vi. 111

—*ib.* of digita artery, ligature failed, but subsequently cured by circular division of all soft parts of finger except tendons and their thecæ (W. Lawrence), ix. 216—*ib.* of forehead treated by application of ligatures (B. C. Brodie), xv. 177.

*Aneurism External*, new method of operating for the cure of, with observations and experiments illustrative of the effects of the different methods of procuring the obliteration of arteries (P. Crampton), vii. 341—On the operation for *E. A.* (G. Norman), x. 94.

*Angina Pectoris*, history of two cases of (S Black, M.D.), vii. 70.

*Animal Fluids*, general views of the composition of (J. Berzelius, M.D.), iii. 198—On the nature and analysis of *A. F.* (J. Bostock, M.D.), iv. 53.

*Animal Heat*, cases and observations illustrating the influence of the nervous system in regulating (H. Earle), vii. 173.

*Anus, Dilatation of the*, a case (H. L. Thomas), i. 129.

*Aorta obstructed*, case of (R. Graham, M.D.), v. 287.

*Appendix Vermiformis*, diseased case of (J. Parkinson), iii. 57.

*Aqueous Humor*, on the effects of evacuating in inflammation of the eyes and in some diseases of the cornea (J. Wardrop), iv. 142.

*Arbutus Uvæ Ursi*, some observations concerning the medicinal properties of (S. Barton), vii. 143.

*Arsenic*, case of recovery from the effects of, with remarks on a new method of detecting its presence (P. M. Roget, M.D.), ii. 136—Note on its detection by muriate of silver (A. Marcet, M.D.), vi. 663—Effects of *A.* in counteracting the poison of serpents (J. P. Ireland), ii. 393—Note to same (T. Chevalier), 400—Good effects of *A.* in chorea (T. Martin), iv. 45—Use of *A.* in cure of chorea (T. Salter), x. 218.

*Arteries*, on the causes of the vacuity of after death (J. Carson, M.D.), xi. 165.

*Arteries, Ligature of*, observations on, and the causes of secondary hæmorrhage, with a suggestion of a new method of employing the ligature in cases of aneurism (B. Travers), iv. 435—Further observations on *L. of A.* (B. Travers), vi. 632—A new method of tying *A.* in aneurism, amputation, &c., with incidental remarks on some collateral points (W. Lawrence), vi. 156.—Further Observations on *L. of A.* (W. Lawrence), viii. 490.

*Artery Peroneal*, wound of, successfully treated by ligature (G. J. Guthrie), vii. 330.

*Artificial Pupil*, observations and cases relating to the operation of (J. P. Maunoir and Scarpa), vii. 301—Further account of the result of an operation for *A. P.* (J. P. Maunoir), ix. 382.

*Ascites* connected with utero-gestation case of, successfully treated by operation (G. Langstaff), xii. 372.

*Bile, Extravasation of*, into the cavity of the abdomen from rupture of the liver or gall-bladder (—— Fryer), iv. 330.

*Bite of a wild Jackal* in a rabid state, effects of (M. Hewitt), xiii. 264.

*Blood, Gelatine of*, on the (J. Bostock, M.D.), i. 47.

*Blood, Serum of*, experiments and observations on (J. Bostock, M.D.), ii. 161—nature of alkaline matter contained in *S. of B.* (A. Marcet, M.D.), ii. 362—healthy, account of a concrete oil existing as a constituent principle of (B. G. Babington, M.D.), xvi. 46—considerations with respect to, founded on one or two very simple experiments (B. G. Babington, M.D.), 293.

*Blood, Loss of*, on the effects of (M. Hall, M.D.), xiii. 121—experimental investigation of the effects of *L. of B.* (M. Hall, M.D.), xvii. 250.

*Boiling Water*, cases of children who had attempted by mistake to drink, from the spout of a teakettle, with observations on the seat and treatment of the effects of this accident (M. Hall, M.D.), xii. 1—effects of *B. W.* on pharynx and glottis (E. Stanley), xii. 8.

*Bone*, formation of, experiments and observations in order to ascertain the

means employed by the animal economy in (J. Howship), vi. 263—microscopic observations on the structure of *B.* (J. Howship), vii. 387—supplementary observations to same, 581—observations on the morbid structure of *B*, and attempt at arrangement of their diseases (J. Howship), viii. 57—observations upon the morbid appearances and structure of *B.* (J. Howship), x. 176—observations on the condition of *B.* in rickets, with account of circumstances not before noticed relating to the processes of restoration which take place in them (E. Stanley), vii. 404.

*Brain*, child born without, which lived four days, with a sketch of the principal deviations from the ordinary formation of the body; remarks on their productions; and a view of some physiological references to which they lead (W. Lawrence), v. 165—*Injuries of B.*, pathological and surgical observations relating to Part I. (B. C. Brodie), xiv. 325,—Rupture of *B.* and of its membranes from accumulation of fluid in Hydrocephalus Internus (J. Baron, M.D.), viii. 51—Destruction of fœtal *B.* (—— Hammond), xii. 308—Abscess in *B.* (A. Denmark, M.D.), v. 24—Disease in *B.* produced by external violence (A. C. Hutchison, M.D.), iv. 188—Appendix to same (A. C. H.), 197—Tumor in *B.*, with remarks on the propagation of nervous influence (J. Yelloly, M.D.), i. 181—Hydatid in the *B.* (M. Morrah), ii. 260—Fungus Hæmatodes of *B.* (J. Hunter, jun.), xiii. 88.

*Bremner's Instrument* for carrying a ligature round deep-seated arteries described (J. Wardrop), xiii. 227.

*Bronchocele*, on a new mode of treating, *i. e.* by seton (—— Quadri, M.D.), x. 16—*ib.* treated by seton (A. C. Hutchison), xi. 235—Case of *B.* in which superior thyroideal artery was successfully tied (H. Coates), x. 312—Case of *B.* successfully treated with iodine (H. S. Roots), xii. 310.

*Bronchotomy* successfully performed in a case of croup (T. Chevalier), vi. 151—*B.* required in some affections of larynx (W. Lawrence), vi. 221—Suggestions relative to the operation of *B.* (J. Wood), xvii. 138—Operation of *B.* performed successfully for the removal of a pebble from the trachea (W. J. Hunt, M.D.), xii. 27—Observations on same (H. Earle), 32.

*Bubonocele*, case of, requiring a second operation seven days after the first (T. Forster), v. 232.

*Cæsarean Operation*, history of a case terminated fatally (K. Wood), vii. 264 *ib.* in which the lives of the mother and child were both preserved (J. J. Locher, M.D.), ix. 11—Appendix to same, xi. 201—Second operation performed on same patient, died 46 days after (J. J. Locher, M.D.), xi. 182—Translated abridgment of two cases from Von Siebold's Journal für Geburts Hülfe (W. Lawrence), 204—See also Extraction of Living Fœtus, xii. 46.

*Calculi Biliary*, account of two cases of, of extraordinary dimensions (J. Brayne), xii. 255—See also Obstructions in the large Intestines.

*Calculi Renal*, on (H. Earle), xi. 211.

*Calculi Urinary*, on the comparative infrequency of in seafaring people (A. C. Hutchison), ix. 443—Appendix to, 463—A further inquiry into same (A. C. Hutchison), xvi. 94—Description of *U. C.* composed almost entirely of lithate or urate of ammonia (W. Prout, M.D.), x. 389—See also Urinary Concretions—History of a case in which *C.* was voided from a tumor in the groin (T. Copeland), iii. 191—On the danger of extracting large *C.*, with the description of an instrument intended to facilitate the breaking down stones of considerable magnitude (H. Earle), xi. 68—Three cases of *C.* removed from the urethra without the use of cutting instruments (A. P. Cooper), viii. 427—Account of a case in which numerous *C.* were extracted from the urinary bladder without the employment of cutting instruments (A. P. Cooper), xi. 349—Further account of extraction of *Calculi* without

cutting instruments (A. P. Cooper), xii. 381—Particulars of a case in which a very large *C.* was removed from the urethra of the female without operation; with examples of analagous cases (J. Yelloly, M.D.), vi. 574—See also Urethra and Stone in the Bladder.

*Cancer and other Morbid Alterations of Structure*, on the influence of local irritation in the production of local diseases resembling (H. Earle), xii. 268—Cases of *C.* (G. Langstaff), ix. 297.

*Carcinoma Mammæ*, on the varieties of disease comprehended under the name of (C. Bell), xii. 213.

*Cartilaginous Substances* successfully extracted from the cavity of the knee-joint (J. Clark, M.D.), v. 67—Account of the extraction of a loose substance consisting partly of bone and partly of *C.* from the elbow-joint (J. M. Coley), v. 76.

*Cataract*, observations on the (B. Travers), iv. 278—Further observations on *C.* (B. Travers), v. 391.

*Catarrhus Æstivus*, or summer catarrh, on (J. Bostock, M.D.), xiv. 437.

*Cautery, Actual*, on the use of, as a remedy for the cure of diseases (J. P. Maunoir), ix. 364.

*Charcoal Burning, Vapour of*, case of exposure to the (W. Babington, M.D.) i. 83.

*Cheselden's improved Lateral Operation of Lithotomy*, observations on the statement made by Dr. Douglass on (J. Yelloly, M. D.), xv. 339.

*Child born without a Brain* which lived four days, account of; with a sketch of the principal deviations from the ordinary formation of the body; remarks on their production; and a view of some physiological inferences to which they lead (W. Lawrence), v. 165.

*Chimney Sweepers' Cancer*, on (H. Earle), xii. 296.

*Cholera, Epidemic Spasmodic*, account of, which has lately prevailed in India and other adjacent countries and islands, and at sea (F. Corbyn); also communications on same subject from India, Mauritius, and Ceylon, with remarks (Sir G. Blane, Bart., M.D.), xi. 110—On the occurrence of *C.* in Persia (J. Cormick), xii. 359.

*Chorea Sancti Viti*, history of a case occurring in an adult and cured in an unusual manner, *i. e.*, by violently beating a drum (K. Wood), vii. 237—A case of *C.* successfully treated with arsenic (G. Gregory, M.D.), xi. 299—Cases of periodical jactitation or *C.* (R. Watt, M.D.), v. 1.

*Chyle*, some experiments on the chemical nature of (A. Marcet, M.D.), vi. 618.

*Chyme*, a few observations on (A. Marcet, M.D.), vi. 626.

*Cicatrices* from the neck consequent on burns, cases in which the operation for the removal of, was successfully performed (J. H. James), xiii. 152.

*Circulation*, some observations relating to the powers of, and the state of the vessels in an inflamed part (A. P. W. Philip, M.D.), xii. 396—On the phenomena and appearances from partial obstruction of cerebral (J. Howship), xvii. 423.

*Clasp Knives*, account of a man who lived ten years after having swallowed a number of, with a description of the appearances of the body after death (A. Marcet, M.D.), xii. 52—Appendix to No. I. (B. Lara, M.D.), 64—Appendix No. II., narrative drawn up by himself (John Cummins), 70

*Coccoloba Uvifera*, experiments on the bark of (J. Bostock, M.D.), iii. 146.

*Contracted Wrist*, case of, successfully treated (—— Hodgson), iv. 294.

*Contractions* after burns or extensive ulcerations (H. Earle), v. 96—Further observations on *C.* succeeding to ulceration of the skin (H. Earle), vii. 411.

*Copper, Sulphate of*, on the use of in chronic diarrhœa (J. Elliotson, M.D.), xiii. 451.

*Cough*, a case of violent and obstinate, cured by vitriolated iron (C. Stanger, M.D.), i. 13—*Hooping C.*, some observations relative to the treatment of (R. Pearson, M.D.), 23—On the use of Lactuca Virosa in *H. C.* (T. Gum-

precht, M.D.), vi. 608—On the pathology of *H. C.* (J. Alderson, M.D.), xvi. 78.

*Croton Tiglion*, on a new preparation of (J. Pope), xiii. 97.

*Croup*, account of a case in which the operation of bronchotomy successfully performed (J. Chevalier), vi. 151.

*Cubebs*, or Java pepper, observations on the use of, as a remedy for gonorrhœa (S. D. Broughton), xii. 99.

*Cynanche Laryngea*, case of (J. R. Farre, M.D.), iii. 84—Appendix to (J. R. Farre), 323—History and dissection of a fatal case of (E. Percival, M.D.), iv. 297—Case of *C. L.*, with remarks (T. Wilson), v. 156—Case of *C. L.* successfully treated (J. W. Roberts, M.D.), vi. 135—Remarks on preceding (Sir G. Blane, Bart., M.D.), 141—Case of *C. L.* successfully treated (—— Arnold, M.D.), ix. 31—Case of *C. L.* in which tracheotomy and mercury were successfully employed (W. H. Porter), xi. 414.

*Death Sudden*, an account of three cases of, with the appearances on dissection, and some additional observations (T. Chevalier), i. 157—Case of *S. D.*, in which a hydatid was found in substance of the heart (D. Price), xi. 274.

*Defective power to distinguish colours*, account of a case of (W. Nicholl, M.D.), ix. 359

*Diabetes Insipidus*, observations on (J. Bostock. M.D.), iii. 107.

*Diabetes Mellitus*, on the effects of large doses of opium in a case of (W. Money), v. 236.

*Diseases*, observations on the comparative prevalence, mortality and treatment of different, illustrated by abstracts of cases which occurred to the author at St. Thomas's Hospital, and in his private practice, embracing a period of 20 years (Sir G. Blane, Bart., M.D.), iv. 89—Supplement to same (Sir G. B.), 466—Report of principal *Natural D.* that have prevailed amongst the children of the Royal Military Asylum at Chelsea, from 1804 to 1814, with some remarks thereon (P. Macgregor), v. 435—Addition to the preceding paper (W. Henry, M.D. and P. Holland), 442—A report of the *principal D.* which occurred among the gentlemen cadets in the Royal Military College at Great Marlow and Sandhurst, from September 1809 to September 1816 (N. Bruce), ix. 249—Account of a *singular and fatal D.* occurring in several persons in the same hamlet (H. Gervis), ii. 234.

*Dissection* of a case in which there had been dislocation of the ankle, with fracture of the fibula (W. Lawrence), xvii. 58—*D. of a limb*, on which the operation for popliteal aneurism had been performed seven years previously (A. P. Cooper), ii. 249—*D. of the parts* concerned in the aneurism for the cure of which Dr. Stevens tied the internal iliac artery in 1812 (R. Owen), xvi. 219.

*Distemper* in dogs, observations on (E. Jenner), M.D., i. 263.

*Dropsy Ovarian*, remarkable case of (T. Chevalier), iii. 40—*ib.* (C. Thomas, M.D.), xiii. 330.

*Dropsical Fluids*, chemical account of various, with remarks on the nature of the alkaline matter contained in these fluids and on the serum of the blood (A. Marcet, M.D.), ii. 340.

*Duodenum*, *Laceration* of its internal coat by vomiting (T. Chevalier), v. 93.

*Dysentery*, on the mercurial plan of treatment in, with remarks on same practice as applied to yellow fever, and to the remitting fevers which often occur in Europe, as well as in the East and West Indies (W. Fergusson), ii. 180.

*Dysphagia*, case of, produced by aneurism of the aorta (T. J. Armiger), ii. 242.

*Ear*, observations on some points relating to the physiology and pathology of (J. Swan), ix. 422—On the physiology of *E.* (J. Swan), xi. 330.

*Elbow Joint*, extraction of a loose substance from (J. M. Coley), v. 76.
*Elephantiasis* or lepra arabum, two cases of true (W. Lawrence and H. H. Southey, M.D.), vi. 209—*E.* as it appears in Hindostan (J. Robinson), x. 27.
*Enlargement Extraordinary* of the right lower extremity, with a description of some morbid changes in the papillæ of the cutis (T. Chevalier), ii. 63.
*Epilepsy*, attended with remarkable slowness of the pulse, case of (W. Burnett, M.D.), xiii. 202.
*Erethism Mercurial*, notes of a case of (T. Bateman, M.D.), ix. 220.
*Eruption*, tubercular of a syphilitic appearance, history of a, curable without mercury (T. Bateman, M.D.), vi. 225. *See* also Fungous Eruption.
*Erysipelas*, on the treatment of by incision (A. C. Hutchison, M.D.), v. 278—Observations on the nature and treatment of *E.*, illustrated by cases (W. Lawrence). xiv. 1.—Treatment of *E.* by numerous punctures in the affected part (R. Dobson, M.D.), 207.—Cases of *E.* with some remarks (A. C. Hutchison), 213.
*Erythema*, account of a severe case of unconnected with mercurial action (A. Marcet, M.D.), ii. 73.
*Eye*, inquiries respecting the anatomy of (A. Jacob, M.D.), xii. 487—*E.* and *chest*, case of a periodical affection of the (J. Bostock, M.D.), x. 161—Rheumatic inflammation of *E.*, with observations on the treatment of that disease (J. Wardrop), 1—Cases of destructive inflammation of *E.*, and of suppurative inflammation of the integuments occurring in the puerperal state, and apparently arising from constitutional causes (M. Hall, M.D. and J. Higginbottom), xiii. 189—Essay on a peculiar inflammatory disease of *E.*, and on its mode of treatment (W. Wallace), xiv. 286.
*Exomphalos* strangulated, abstract of the history of a case of, successfully operated on 50 hours after parturition (—— Gore), xii. 570.

*Fatty Matter*, discharge of, from the bowels in a case of jaundice (E. A. Lloyd), xviii. 57—On the discharge of *F. M.* from the alimentary canal and urinary passages (J. Elliotson, M.D.), 67.
*Fever Epidemic*, an account of which occurred at Gibraltar in 1804, 1810, and 1813 (J. D. A. Gilpin, M.D.), v. 303.
*Fevers Intermittent*, facts and observations respecting, and the exhalations which occasion them (Sir G. Blane, Bart., M.D.), iii. 1.
*Fever Mediterranean*, observations on the (A. Denmark, M.D.), vi. 296.
*Fever Yellow*, an inquiry into the origin and nature of, as it has lately appeared in the West Indies, with official documents relating to the subject (W. Fergusson, M.D.), viii. 108—Postcript to same, 585—History of the progress and inquiry into the causes of the *Y. F.* as it appeared in the island of Antigua, in 1816 (A. Musgrave, M.D.), ix. 93—On mercurial plan of treatment in *Y. F.* (W. Ferguson), ii. 180.
*Fistula in Perinæo*, some cases of (T. Chevalier), ii. 210.
*Fœtus*, observations on some of the causes which destroy in utero, with the account of a case in which a successful mode of treatment was employed in preventing that accident (D. Stewart, M.D.), v. 144—Singular case of expulsion of a blighted *F.* and placenta at seven months, a living child still remaining to the full period of utero-gestation (J. Chapman), ix. 194—Extraction of living *F.* from a woman killed by violence (J. H. Green), xii. 46—History of a woman who bore a seven months' *F.* for seven years, and was delivered of it per anum, and completely recovered (J. A. Albers, M.D.), viii. 507—Case of extra uterine gestation, in which the *F.* was extracted through an aperture made in the posterior part of the vagina between the uterus and rectum (G. Norman). xiii. 348—*F.* retained in the mother 52 years after the usual period of utero-gestation, after death its remains found in a bony cyst (R. B. Cheston, M.D.), v. 104—Case of *F.*

found in a tumor in the abdomen of a boy nine months old (G. W. Young), i. 234—Parts of *F.* found in a tumor situated in the abdomen of a girl two-and-a-half years old (E. Phillips, M.D.), vi. 124—Description of extra uterine *F.* contained in the Fallopian tube (G. Langstaff), vii. 437—*ib.* with observations (G. Langstaff), viii. 502—Particulars concerning the structure of a monstrous *F.* (J. P. Mammoir), vii. 257—Note to same (Secretaries), 262.

*Fractured Bones*, experiments and observations on the union of (J. Howship), ix. 143.

*Fractures, Compound*, observations on (J. Dunn), xii. 167.

*Fracture, Ununited*, of the thigh cured by sawing off the ends of the bone (G. Rowlands), ii. 47—Case where a seton was introduced between the fractured extremities of a femur which had not united in the usual manner, with some observations on the methods which have been employed to produce reunion in fractured bones (J. Wardrop), v. 358—Addition to foregoing (B. C. Brodie), 387—*Ununited F.* of os humeri treated successfully by seton (J. Stansfield), vii. 103—Case of *U. F.* of humerus treated by seton and the application of caustic potash (H. Earle), xii. 190—Case of *U. F.* of the thighbone cured by the application of a silver wire between the fractured extremities (—— Sommé, M.D.), xvi. 36.

*Fracture of Occipital Bone*, extending to the great foramen, in which that bone was trephined, and the dura mater of the cerebellum punctured (A. C. Hutchison, M.D.), ii. 104—*F.* of *cranium*, where the dura and pia mater were lacerated, and a great quantity of the cerebrum protruded, which terminated favourably (P. T. Creagh), 307—Case of a man whose *spine* was *fractured* with the dissection (W. R. Barlow), xvii. 115—*F.* of *os pubis* successfully treated (H. Coates), xi. 270—Remarks on the diagnosis, and on the inversion of the foot. *F. of the neck* and upper part of the thighbone (G. J. Guthrie), xiii. 103—Cases of *fractured neck* of the thighbone within the capsular ligament, with the dissections and observations (G. Langstaff), 487—Particulars of a case of *F.* of the neck of the *femur* (—— Brulatour, M.D.), 513—Case of bony union of *F. of the neck* of the *thighbone* within the capsule, occurring in a young subject (E. Stanley), xviii. 256.

*Fracture, without violence*, of the thigh-bone, two cases of, in which a diseased state of the bones appears to have been the predisposing cause of fracture, and concurring with cancer in the breast in both patients (T. Salter), xv. 186—Case in which left femur and fifth right rib were fractured in consequence of disease, the bladder being at the same time in a state of carcinomatous ulceration, with observations (S. Cooper), xvii. 51.

*Fungous Eruption* curable by mercury, but not of venereal origin (W. Wallace), xiii. 469.

*Fungus Hæmatodes*, case of (G. Langstaff), iii. 277—Cases of *F. H.*, with observations (G. Langstaff), viii. 272—Appendix to same (W. Lawrence), 306—Cases of *F. H.* cancer and tuberculated sarcoma, with observations (G. Langstaff), ix. 297. *See* also Brain.

*Gangrene pale dry* in the foot, case of injury to the blood vessels of the lower extremity producing (T. W. Chevalier), xiii. 17. *See* also Hydrometra.

*Gelatine of the Blood*, on the (J. Bostock, M.D.), i. 47.

*Generation*, experiments on a few controverted points respecting the physiology of (J. Blundell, M.D.), x. 245.

*Gestation*, extra uterine (G. Norman), xiii. 548.

*Glanders* in the human subject, on the (J. Elliotson, M.D.), xvi. 170—Additional facts respecting (J. E.), xviii. 201.

*Gouty Concretions*, or chalk stones, on (J. Moore), i. 112.

*Hæmoptysis*, cases showing the coincidence of worms in the intestines with (N. Romsey), ix. 389.

*Hæmorrhage*, case of fatal *H.* from the extraction of a tooth (R. Blagden), viii. 224—Case of umbilical *H.* which terminated fatally (G. Pout), xii. 182—Account of some circumstances in which a uterine *H.* may occur sufficient to produce alarming symptoms, though the uterus feels contracted in the ordinary degree (R. Gooch, M.D.), 152—Account of some experiments on the use of styptics in *H.* from arteries (B. Hawkins), xvii. 121.

*Heal*, case of injury of (—— Rogers, M.D.), xiii. 283, with remarks (F. Tyrrell), 290.

*Health*, statements of the comparative *H.* of the British navy from 1799 to 1814, with proposals for its farther improvement (Sir G. Blane, Bart., M.D.), vi. 490—Remarks on the comparative *H.* and population of England and Wales at different periods in Appendix to paper on intermittent fevers (Sir G. B. Bart., M.D.), iii. 34.

*Heart*, case of wound of the (J. Featherton), ii. 58—Case of malformation of the *H.* (G. Gregory, M.D.), xi. 296—On a diminution, in consequence of disease, of the area of the aperture by which the left auricle of the *H.* communicates with the ventricle of the same side (J. Abernethy), i. 27—Account of a peculiar disease of the *H.*, *i. e.*, hypertrophy, with adhering pericardium (D. Dundas), i. 37—Case of inflammation in the muscular structure of the *H.* (E. Stanley), vii. 323—Some cases of diseases of the *H.*, with an inquiry into their nature and causes (J. H. James), viii. 434—Some particulars of a remarkable disease of the *H.* attended with partial discoloration of the skin (J. Johnson, M.D.), xiii. 212—Case in which a cyst containing hydatids was found in the substance of the *H.* (H. R. Evans), xvii. 507.

*Hemeralopia*, or night blindness, commonly called nyctalopia, a practical essay on as it affects seamen and others in the East and West Indies, China, the Mediterranean, and all tropical climates; in which a successful method of curing the disease is detailed (R. W. Bampfield), v. 32.

*Hernia Cerebri*, a case of (—— Burrows), ii. 52—Cases of (E. Stanley), viii. 12.

*Hernia of the Dura Mater*, case of, connected with hydrocephalus internus (H. Earle), vii. 427.

*Hernia*, two cases of strangulated femoral *H.*, attended with some unusual circumstances (T. Chevalier), iv. 322—Remarks on omental *H.*, with cases (J. Macfarlane, M.D.), xvi. 237—Case of *H. Ventriculi* from external violence, wherein the diaphragm was lacerated without fracture of the ribs (T. Wheelwright), vi. 374.

*Hip Joint*, see Joint.

*Hot Climate*, observations on the changes which the animal body undergoes in a *H. C.* soon after death (J. Davy, M.D.), x. 89.

*Hydatid* in brain. *See* Brain.

*Hydrocele* of the tunica vaginalis testis, some observations on the cure of, without procuring an obliteration of the sac (K. Wood), ix. 38—Analysis of a quantity of fluid drawn off from a *H.* of some years' standing (J. Bostock, M.D.), xv. 154.

*Hydrocephalus Internus*, a case of (W. Cooke), ii. 17—Case of *H. I.* successfully treated by the removal of the water by operation (J. Vose, M.D.), ix. 354.

*Hydrometra*, history of a case of, and dry gangrene, occurring in the same individual, with some observations on these diseases (A. T. Thomson, M.D.), xiii. 170.

*Hydrophobia*, a case of, with an account of the appearances after death (A. Marcet, M.D.), i. 132—Notes of a case of *H.*, with some remarks on the pathology of that disease (G. Gregory, M.D.), xiii. 254—Case of *H.*, and

the appearance of the body on dissection 14 hours after death, with some remarks on the nature and treatment of that disease (A. T. Thomson, M.D.), 298. *See* also Bite of wild Jackal.

*Icthyosis*, hereditary, case of (P. J. Martin), ix. 52.
*Instruments, Obstetric*, of the Chamberlins. Brief Notice presented to the Med. Chir. Soc. with the original (H. H. Cansardine), ix. 181.
*Inflammation, Acute*, on the products of (T. Dowler), xii. 86—Note on same (J. Bostock, M.D.), 94.
*Intestines, Large*, case of obstruction in the, occasioned by a biliary calculus of extraordinary size (H. L. Thomas), vi. 98.
*Intussusceptio*, case of, with remarks (T. Blizard), i. 169.
*Iron*, a case in which a piece of, was found in a cyst within the thorax, where it had remained for 14 years (D. G. Arnot), xiii. 281.
*Iron, Subcarbonate of*, on the medical properties of (J. Elliotson, M.D.), xiii. 232—On the use of *S. of I.* in tetanus (J. E.), xv. 161.
*Irritation, Local*, on its influence in the production of diseases resembling cancer, &c. (H. Earle), xii. 268.

*Jaundice*, case of, with discharge of fatty matter, see Fatty Matter.
*Joints*, pathological researches respecting the diseases of (B. C. Brodie), vol. iv. p. 207—Further observations on the diseases which affect the synovial membranes of *J.* (B. C. B.), v. 239—Further observations on the ulceration of the cartilages of *J.* (B. C. B.), vi. 318—On an acute form of ulceration of the cartilages of *J.* (H. Mayo), xi. 104—On the ulcerative process of *J.* (C. A. Key), xviii. 208—On the formation of new *J.* (J. Howship), viii. 515—Brief notice of some cases of injury to the hip *J.* (E. Stanley), xiii. 504—Cartilaginous substances extracted from knee *J.*, see Cartilaginous Substances.

*Knife*, blade of, lodged above 30 years in the muscles of the back of a sailor, case of (F. Bush), vol. ii. p. 102.

*Labia Pudendi*, case of adhesion of, in a Negro, obstructing delivery (W. Russell, M.D.), vol. xi. p. 445.
*Labour*, an account of a rare case of complicated *L.* from locking of the heads of twins; to which are subjoined notices of two recorded cases of the same description; with a suggestion of a method for effecting delivery under similar circumstances (J. Allan), xii. 366—Cases of premature *L.* artificially induced in women with distorted pelvis; to which are subjoined some observations on this method of practice (S. Merriman, M.D.), iii. 123.
*Lactuca Virosa*, on the use of, in hooping cough (T. Gumprecht, M.D.), vi. 608.
*Larynx*, on some affections of, which require the operation of bronchotomy (W. Lawrence), vi. 221—Case of ossification and bony growth of the cartilages of *L.* preventing deglutition (F. Travers, M.D.), vii. 150—Case of chronic inflammation of *L.*, in which laryngotomy and mercury were successfully employed (M. Hall, M.D.), x. 166—Note to same at end of the volume—On some effects of inflammation of the membranous lining of the *L.*, with suggestions relative to the operation of bronchotomy, and incidental remarks on spasm and wounds of the throat (J. Wood), xvii. 138
*Laudanum*, taken internally, account of the effects produced by a large quantity of, and of the means used to counteract those effects (A. Marcet, M.D.), i. 77.
*Ligaments* of the human ossicula auditus (T. W. Chevalier), xiii. 61.
*Ligatures of Arteries*. *See* Aneurism, Arteries, Nævus Maternus.

*Lithotomy*, account of a case of, with remarks (T. Forster), i. 99—*Ib.*, with remarks on the effect of that operation, and on some cases of fistulæ in perineo (T. Chevalier), ii. 200—History of a case of *L.*, with a few remarks on the best mode of making the incision in the lateral operation (S. Cooper), viii. 206—Successful case of *L.* (C. Mayo), xi. 54—History of a case of *L.* (W. B. Dickinson), 61—Remarks on the danger of extracting large calculi, with the description of an instrument intended to facilitate the breaking down stones of considerable magnitude (H. Earle), 69—On *L.* (P. M. Martineau), 402—Cheselden's improved lateral operation of *L.* (J. Yelloly, M.D.), xv. 339—An account of the operation of *L.* given by the patient himself, x. 153.

*Local diseases* termed malignant, observations on, Part I. (B. Travers), xv. 195—Part II. 223—Part III. xvii. 300.

*Local Irritation*, on the influence of, in the production of diseases resembling cancer, &c., (H. Earle), xii. 268.

*Locked Jaw*, a case of, cured by oil of turpentine given as a clyster (E. Phillips, M.D.), vi. 65.

*Marasmus*. *See* Peritoneum, scrofulous inflammation of.

*Measles*, remarks on, as it prevailed epidemically at Exeter in 1814 (P. C. Delagarde), vol. xiii. p. 162. *See* also Vaccine Disease.

*Meatus Auditorius Externus*, on affections of the (H. Earle), x. 410.

*Medical History*, sketch of, of the British armies in the peninsula of Spain and Portugal during the late campaigns (Sir James Macgrigor. M.D.), vi. 381—*Ib.* of the first battalion of the first regiment of foot guards during the winter of 1812-13 (J. Bacot), vii. 373.

*Mercury*, beneficial effects of two examples of, in some severe affections of the brain (C. Chisholme, M.D.), iv. 35.

*Metacarpal Bone*, history of a diseased, removed by an operation, with the description of an instrument for sawing off the extremities or portions of the long bones (J. Wardrop), iv. 309.

*Mineral Waters* of Spa, chemical analysis of the (E. G. Jones, M.D.), vii. 1.

*Mollities Ossium*, analysis of the bones of the spine in a case of (J. Bostock, M.D.), iv. 38.

*Monstrosity, Congenital*, an account of a (G. Breschet. M.D.), ix. 433.

*Muscæ Volitantes* of nervous persons, on the (J. Ware), v. 255.

*Muscles*, on the laceration of the fibres of, particularly of the external gastrocnemius (J. Wardrop), vii. 278—Case of loss of power over the voluntary *M.* (J. Bostock, M.D.), ix. 1.

*Nævus Maternus*, some observations on one species of *N. M.*, with the case of an infant where the carotid artery was tied (J. Wardrop). vol. ix. p. 199—Case of a large *N. M.* on the head cured by tying the carotid artery (J. Wardrop), xii. 203.—On the treatment of *N. M.* by ligature (W. Lawrence), xiii. 420—Observations on the surgical treatment of the *N. M.* with ligature (A. White), 444—An account of two cases of deep-seated *N.* or vascular tumour of large size treated by the introduction of setons (G. Macilwain), xviii. 189.

*Nephritis Calculosa*. history of a case of, in which the various periods and symptoms of the disease are strikingly illustrated; and an account of the operation of lithotomy given by the patient himself (A. Marcet, M.D.), x. 147.

*Nerve of the Thumb wounded*, a case of, followed by severe symptoms, which were relieved by a division of the nerve (J. Wardrop), xii. 205.—Wound in the radial *N.* *See* Tic Douloureux.

*Nervous or Paralytic Affection*, history of a singular, attended with anomalous morbid sensations (—— Vieusseux, M.D.), ii. 215—Account of a case where a severe *N. A.* came on after a punctured wound of the finger, and

in which amputation was successfully performed (J. Wardrop), viii. 246. *See* Painful Affection.

*Nicotiana*, on the use of, in retention of urine (H. Earle), vi. 82. *See* also Tobacco.

*Nitro-Muriatic Acid*, on the internal and external use of, in the cure of diseases (H. Scott, M.D.), viii. 173.

*Observationes* quædam *de Hottentotis* præsertim de *structura genitalium* peculiari *Hottentotarum* (Gulmo. Somerville, M.D.), vol. vii. p. 154.

*Obstruction in the large Intestines*, case of, occasioned by a biliary calculus of extraordinary size (H. L. Thomas), vi. 98.

*Œsophagotomy*, case of, with remarks, (J. M. Arnott), xviii. 86.

*Oil concrete* in blood. *See* Blood.

*Operations*, some observations on a mode of performing, on irritable patients, with a case where the practice was successfully employed (J. Wardrop), x. 273.

*Opium*, on the effects of large doses of, in a case of diabetes mellitus (W. Money), v. 236. *See* also Opthalmia, Uterine Hæmorrhagy, and Laudanum.

*Opthalmia remitting*, a case of, and its successful treatment by Opium (J. Curry, M.D.), iii. 348.

*Ovarian Disease*, case of extensive, complicated with pregnancy (T. Hewlett), xvii. 226.

*Ovarium diseased*, account of a substance obtained from, with some remarks on diseased secretions of an analogous nature (J. Bostock, M.D.), x. 77—Account of a case in which some singular preternatural appearances were observed in the *O.* and female bladder (E. Phillips, M.D.), ix. 427

*Ovarium dropsical*. *See* Parturition.

*Ovum, Human*, remarks on the structure and formation of the membrane of the (R, Lee, M.D.), xvii. 473.

*Painful Affection* of the extremity of the left thumb, an account of some remarkable symptoms which were connected with, together with the mode of treatment (J. Pearson), vol. viii. p. 252.

*Paralysis of the Face*, case of, succeeded by certain nervous disorders (E. Percival, M.D.), iv. 17—On partial *P.* (J. Shaw), xii. 105.

*Paraplegia*, on (H. Earle), xiii. 516.

*Pancreas*, history of a case in which, on examination after death, the *P.* was found in a state of active inflammation (W. Lawrence), xvi. 367—cases and observations connected with disease of the *P.* and duodenum (R. Bright, M.D.), xviii. 1.

*Parturition*, a case of difficult, occasioned by a dropsical ovarium forming a tumor in the lower part of the pelvis (S. Merriman, M.D.), iii. 47—Calculations respecting the period of *P.* in women (S. Merriman, M.D.), xiii. 338—Note to same, 640.

*Pellagra*, on the, a disease prevailing in Lombardy (H. Holland, M.D.), viii. 317.

*Pelvis*, on injuries of the (J. Swan), xii. 520.

*Peritoneum*, scrofulous inflammation of, observations on, occurring in children, and frequently denominated marasmus (G. Gregory, M.D.), xi. 258.

*Perspiration, Cutaneous*, analysis of a specimen of (J. Bostock, M.D.), xiv. 424—with an account of the case (R. Bright, M.D.), 433.

*Phagedæna, Sloughing* on (R. Welbank), xi. 361.

*Pharmaceutical Extracts*, on a new method of preparing (J. T. Barry), x. 231.

*Phlegmasia Dolens*, an essay on the proximate cause of the disease called (D. D. Davis, M.D.), xii. 419—A contribution to the pathology of *P. D.* (R. Lee, M.D.), xv. 132—Appendix to same, 145—Additional observations

on (R. L.), xv. 369—Case of *P. D.* caused by inflammation of the veins of the lower extremity, excited by malignant ulceration of the cervix uteri (W. Lawrence), xvi. 58.

*Plague*, an account of the origin and progress of the, in the island of Malta (R. Calvert, M.D.), vi. 1.

*Pomegranate Tree*, bark of, on the efficacy of the, in cases of tænia (P. Breton), xi. 301.

*Pregnancy*, a new variety of extra uterine (G. Breschet, M.D.), xiii. 33—Case of Fallopian tube *P.* (John Elliotson, M.D.), 51.

*Preternatural Growth* in the lining membrane, case of, covering the trunks of the vessels proceeding from the arch of the aorta (J. Yelloly, M.D.), xii. 565.

*Puberty*, historical account of Philip Howorth, a boy, in whom signs of *P.* commenced at an early age (A. White), i. 276—Case of premature *P.* in a boy, John Sparrow (John F. South), xii. 76—Case of premature *P.* in a female (M. Wall, M.D.), ii. 115—Case of premature *P.* in a girl, Charlotte Mawer (A. P. Cooper), iv. 204—Account of a child three years of age, James A. Savin, in whom there appeared signs of *P.* (G. Breschet, M.D.), xi. 446.

*Pudendum*, history of a very fatal affection (ulceration) of the, of female children (K. Wood), vii. 84.

*Puerperal Women*, see Uterine Inflammation.

*Pulmonary Consumption*, some observations on a species of, very frequent in Great Britain (A. P. W. Philip, M.D.), vii. 499.

*Pus and Lymph*, observations on depositions of, occurring in the lungs and other viscera after injuries of different parts of the body (T. Rose), xiv. 251.

*Pyrola Umbellata*, on the diuretic properties of (W. Somerville, M.D.), v. 340—Some observations on the medical properties of *P. U.* (S. Barton), vii. 143.

*Quinina*, illustrations of the medical properties of (J. Elliotson, M.D.), vol. xii. p. 543.

*Rectum, Relaxed*, observations on (T. Chevalier), vol. x. p. 400.

*Respiration, Organs of*, history of a severe affection of the, with the appearances on dissection, and remarks (A. P. W. Philip, M.D.), iii. 290.

*Report* of the state of the *Wounded* on board his Majesty's ship Leander in the action before Algiers (D. Quarrier, M.D.), viii. 1.

*Retention of Urine*, on the use of nicotiana in (H. Earle), vi. 82.

*Rheumatism, Chronic*, an account of a new mode of treatment in, and especially in sciatica (A. Marcet, M.D.), iii. 310.

*Rickets*, of a peculiarity in the conformation of the skeleton in (J. Shaw), xvii. 434.

*Saliva*, observations on the, during the action of mercury upon the system (J. Bostock, M.D.), vol. xiii. p. 73.

*Sarcoma, Medullary*, history of a case of, which affected several important viscera, with a description of the morbid appearances which were observed on dissection (G. Langstaff), xviii. 250.

*Sarsaparilla*, on the comparative virtues of different kinds of (J. Pope), xii. 344.

*Saussure H. Benedict de*, an account of the last illness and death of Professor (L. Odier, M.D.), vii. 211—Additional particulars connected with the same (A. Marcet, M.D.), 228.

*Scrotum*, case of an extraordinary enlargement of the, with an operation successfully performed for its removal (J. M. Titley, M.D.), vi. 73.

*Serum of the Blood*, account of a chemical examination of the urine and *S.*

of a person who had been taking large quantities f soda (J. Bostock, M.D.), v. 80.

*Seton* introduced between fractured extremities of femur. *See* Fracture ununited.

*Shoulder Joint*, gun-shot wound of, case of, where the head of the os humeri, together with parts of the humerus, were successfully removed (W. R. Morel), vii. 161.

*Silver, Nitrate of*, some remarks on the use of, for the detection of minute portions of arsenic (A. Marcet, M.D.), iii. 342—Note on same (A. M.), vi. 663—Observations on a change of colour in the skin, produced by the internal use of *N. of S.* (J. A. Albers, M.D.), vii. 284—Additional facts to same (P. M. Roget, M.D.), 290—On the effect of *N. of S.* on the complexion (—— Badeley, M.D.), ix. 234.

*Skin, change of colour*. *See* Silver, nitrate of.

*Sloughing Abscess*, cases of, connected with the liver, with some remarks on encysted tumours of that organ (C. Hawkins), xviii. 98.

*Small Pox*, two cases of infection communicated to the fœtus in utero, with additional remarks (E. Jenner, M.D.), i. 269—Case of simultaneous occurrence of *S. P.* and measles, with remarks on measles as it prevailed epidemically at Exeter in 1824 (P. C. Delagarde), xiii. 163—Case of secondary *S. P.*, with reference to some cases of a similar nature (T. Bateman, M.D.), ii. 31—Cursory remarks on *S. P.* as it occurs subsequent to vaccination (G. Gregory, M.D.), xii. 324.

*Spina Bifida*, some observations on (A. P. Cooper), ii. 322.

*Spinal Cord and its Nerves, on the Irritation of the*, in connexion with disease of the kidneys (E. Stanley), viii. 260.

*Spleen*, on some morbid appearances of the absorbent glands and *S.* (T. Hodgkin, M.D.), xvii. 68—On painful affections of the side from tumid *S.* (R. Bree, M.D.), ii. 84.

*Splenitis*, a case of, with further remarks on that disease (R. Bree, M.D.), iii. 155.

*Stammering*, history of a case of, successfully treated by the long continued use of cathartics (J. Bostock, M.D.), xvi. 72.

*Stomach, Human*, vascular appearance in the, observations on the, which is frequently mistaken for inflammation of that organ (J. Yelloly, M.D.), iv. 371—Rupture of the *S.* (from ulceration) and escape of its contents into the cavity of the abdomen (J. Crampton, M.D.), viii. 228—Additional remarks to same (B. Travers), 231—Case of ulceration and rupture of *S.* (J. Elliotson, M.D.), xiii. 26—Case of laceration of the internal coat of the *S.* and duodenum by vomiting (T. Chevalier), v. 93—Case of rupture of the *S.* produced by vomiting (J. N. Weekes), xiv. 447.

*Stone in the Bladder*, a statistical inquiry into the frequency of, in Great Britain and Ireland (R. Smith), xi. 1.

*Stone and a portion of Catheter* extracted from the female bladder by a dilator (A. P. Cooper), xii. 235—Appendix to same (T. Chapman and G. Birt), 241.

*Stramonium*, on the medicinal properties of, with illustrative cases (A. Marcet, M.D.), vii. 551—Appendix to same, viii. 594.

*Stumps*, practical observations on the healthy and morbid conditions of (G. Langstaff), xvi. 128.

*Styptics*, on the use of. *See* Hæmorrhage.

*Swietenia Febrifuga*, on the efficacy of the bark of, as a substitute for that of cinchona (P. Breton), xi. 310.

*Syphilis*, observations on the treatment of, with an account of several cases of that disease, in which a cure was effected without the use of mercury (T. Rose), viii. 349—Observations on the necessity and method of further investigating the distinctions between *S.* and other varieties of venereal disease (R. Welbank), xiii. 563.

*Teeth*, observations on the diseases of (T. Bell), vol. x. p. 38.
*Testicle diseased*, a case of, accompanied with disease of the lungs and brain, and terminating fatally (H. Earle), iii. 59.
*Tetanus*, observations on (D. J. H. Dickson, M.D.), vii. 448—Letters on same (D. M'Arthur, M.D.), 466—Case of *T.* successfully treated (M. A. Burmester), xi. 384.—On the use of subcarbonate of iron in *T.* (J. Elliotson, M.D.), xv. 161.
*Theca Vertebralis*, spontaneous extravasation within, a case of which soon terminated fatally (T. Chevalier), iii. 102.
*Throat*, spasms and wounds of the, incidental remarks on (J. Wood), xvii. 138.
*Tibia*, chronic abscess of, an account of some cases of (B. C. Brodie), xvii. 239.
*Tic Douloureux*, an example of symptoms resembling, produced by a wound in the radial nerve (A. Denmark), iv. 48.
*Tobacco*, observations on the use of, as a local application in gout and other cases of constitutional inflammation (J. Vetch, M.D.), xvi. 356. *See* also Nicotiana.
*Toes and Fingers*, an account of some diseases of, with observations on their treatment (J. Wardrop), v. 129.
*Tongue and Mouth*, an instance of spasmodic affection of the (J. Mitchell), iv. 25—History of a case of ill-conditioned ulcer of *T.* successfully treated with arsenic (C. Lane), viii. 201.
*Tonsils diseased*, description of an improved method of tying (T. Chevalier) iii. 80.
*Transfusion of Blood* by the syringe, experiments on (J. Blundell, M.D.), ix. 56. *See* also Vomiting, obstinate.
*Trismus*, case of, following a contused wound of the head (J. Harkness), ii. 284—Case of *T.* successfully treated (J. Parkinson), 291.
*Tumours*, observations on, with cases (W. Lawrence), xvii. 1—History of a *T.* successfully removed from the face and neck by previously tying the carotid artery (W. Goodlad), vii. 112—Additional observations to same, viii. 582—Case of a large glandular *T.* in the neck removed (J. P. Vincent), xii. 247—History of a case of bony *T.* successfully removed from the head of a female (R. Keate), x. 278—Case of a large adipose *T.* successfully extirpated from the front of the abdomen weighing 37 pounds and 10 ounces (A. P. Cooper), xi. 440—Account of the removal of a *T.* situated on the cheek (J. Barlow), xvi. 19—Observations on *T.* within the pelvis (H. Park), ii. 296—On *T.* within the pelvis obstructing parturition, with remarks (S. Merriman, M.D.), x. 50—Cases of *T.* in the abdomen, arising from organic disease of the stomach, with remarks (E. J. Seymour, M.D.), xiv. 222—Case of *T.* in the anterior mediastinum, containing bones and teeth (J. A. Gordon, M.D.), xiii. 12—Case of double encysted *T.* the posterior cyst of which, situated deeply between the eyeball and the floor of the orbit, was attached to, and partly contained a tooth (S. Barnes), iv. 316—Remarks on encysted *T.* of the liver (C. Hawkins), xviii. 99—Case of aqueous encysted *T.* of kidney, with a supernumerary gland attached to it (C. Hawkins), 175—On malignant *T.* connected with the heart and lungs (J. Sims, M.D.), 281.
*Turpentine, Oil of*, on the use of in Tænia (J. R. Fenwick, M.D.), ii. 24.

*Ulcerations*, extensive contractions after. *See* Contractions.
*Ulcers, Sinuous*, on the treatment of (H. Dewar, M.D.), vii. 482—*U.* of tongue. *See* Tongue.—*U.* of stomach. *See* Stomach.
*Ureters*, account of the muscles of the, and their effects in the irritable states of the bladder (C. Bell), iii. 171.
*Urethra*, description of two muscles surrounding the membranous part of *U.* (J. Wilson), i. 175—On the stricture of the membranous part of the *U.*

(J. Shaw), x. 339—Case of artificial dilatation of the female *U.* (H. L. Thomas), i. 123—Dilatation of the male *U.* by inflation, for the extraction of calculi from the bladder, as practised in Egypt, near 250 years ago (R. M. Kerrison, M.D.), xii. 315—Case of structure of *U.* treated by incision (J. M. Arnott), 351—On the effects of stricture of the *U.* particularly of the sacculated state of the bladder, with an inquiry into a mode of treatment to avert this latter consequence of stricture which is often fatal (J. Shaw), 461—Appendix to same, 481.

*Urinary, and other morbid Concretions*, on (W. Henry, M.D.), x. 125.

*Urine*, observations on the nature of some of the proximate principles of, with a few remarks upon the means of preventing those diseases connected with a morbid state of that fluid (W. Prout, M.D.), viii. 526—Further observations on same (W. Prout, M.D.), ix. 472—Experiments on the *U.* discharged in diabetes mellitus, with remarks on that disease (W. Henry, M.D.), ii. 118—Account of a chemical examination of the *U.* and serum of the blood of a person who had been taking large quantities of soda (J. Bostock, M.D.), v. 80—Account of a singular variety of *U.* which turned black soon after being discharged, with some particulars respecting its chemical properties (A. Marcet, M.D.), xii. 37—Note to same (W. Prout, M.D.), 43—A case of incontinence of *U.* of nine years' duration cured by external pressure (J. Hyslop), vi. 108—Case of successful treatment of incontinence of *U.* consequent to sloughing or ulceration of the bladder from injury during labour, with observations (S. Barnes), 583.

*Uterine Hæmorrhagy*, some observations on the use of opium in (—— Stewart), iv. 358—Pathological and practical researches on Uterine inflammation in puerperal women (R. Lee, M.D.), xvi. 377.

*Uterus*, on the muscularity of (C. Bell), iv. 335—Description of the appearances observed in a double *U.*, in which impregnation had taken place, with remarks on the structure and formation of the membranes of the human ovum (R. Lee, M.D.), xvii. 473—Rupture of the *U.* and subsequent recovery of the patient (J. Powell), xii. 537—Case of rupture of the *U.* successfully treated (—— Smith, M.D.), xiii. 373—Two cases of laceration of the *U.* during labour, after which one woman survived nearly eight weeks, and the other perfectly recovered; with some general remarks (W. Birch), 357—Case of separation of a portion of the *U.* during severe labour (P. N. Scott), xi. 392—Case of mortification of the *U.* occurring a few hours after delivery, with some remarks on the causes that produced it (T. Graham), vi. 601—Some observations on inversion of the *U.*, with a case of successful extirpation of that organ (J. Windsor), x. 358—Case of polypus of the *U.* (G. Langstaff), xvii. 63—Inflammation of veins of *U.*, *see* Veins.

*Vaccination*, a statement of facts tending to establish an estimate of the true value and present state of (G. Blane, M.D.), vol. x. p. 315.

*Vaccine Disease* and Measles, case of, existing at the same time in the same individual (S. Gilder), xii. 186.

*Veins*, observations on the treatment of varicose, of the legs (B. C. Brodie), vii. 195—Case of inflammation of the femoral and iliac *V.*, with an account of the appearances after death (C. F. Forbes, M.D.), xiii. 293—A pathological inquiry into the secondary effects of inflammation of the *V.* (J. M. Arnott), xv. 1—Appendix to same, containing a case of fatal phlebitis and deposition of pus into the substance of the heart (W. Lawrence), 123—Pathological researches on inflammation of the *V.* of the uterus, with additional observations on phlegmasia dolens (R. Lee, M.D.), xv. 369—Appendix to same, including cases (C. Hawkins and A. C. Hutchison), 432—Case of extensive inflammation and obstruction of the *V.* of the right inferior extremity, accompanied by a swollen state of the limb, the subject a phthisical youth (T. H. Holberton), xvi. 63.

*Venereal Disease*, observations on the, in Portugal, as affecting the constitutions of the British soldiery and natives (W. Fergusson), iv. 1—Observations on the treatment of *V. D.* without mercury (G. J. Guthrie), viii. 550—Facts illustrating the effects of the *V. D.* on the fœtus in utero, and the modes of its communication (W. Hey), vii. 541.

*Vertebræ*, dislocations of the, on (W. Lawrence), xiii. 387.

*Vision*, account of a case of curious imperfection of (W. Nicholl, M.D.), vii. 477.

*Vomiting*, obstinate, some account of a case of, in which an attempt was made to prolong life by the injection of blood into the veins (J. Blundell, M.D.), x. 296.

*Water, Bag of*, case of presentation of a, after delivery, unconnected with plurality of children (J. Dunn), vol. x. p. 396.

*Worms*, case of a woman who voided a large number of by the urethra, with a description of the animals (W. Lawrence), ii. 382—Cases showing the coincidence of *W.* in the intestines with hæmoptysis, and remarks on the probability of the two affections having a connexion with each other (N. Rumsey), ix. 389—Note to same, 485.

*Wound*, history of a case of, in the face, requiring the operation of tying the common carotid artery, which was performed with success (C. Collier), vii. 107—Case of gunshot *W.* of shoulder-joint. *See* Shoulder-joint.—Case of gunshot *W.* and fracture of the tibia, in which a seton was successfully employed in promoting a cure (J. Boggie), vii. 338—Case of extensive *W.* from the bite of a shark (J. Kennedy, M.D.), ix. 240—Case of *W.* of heart. *See* Heart.—Remarks on *W.* of throat. *See* Larynx.

J.R. 23/1/30

R
35
R67
v.18
Biological
& Medical
Serials

Royal Medical and Chirurgical
Society of London
Medico-chirurgical trans-
actions

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY